Detailed Implementation Plan

for

PVO Child Survival and Health Grants Program

Health Alliance International

Central Mozambique
Child Survival and Maternal Care Program

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Glossary of Terms and Abbreviations

ADPP	Humana People to People (Portuguese)
AIC	African Independent Churches
ANC	Antenatal care
ARV	Anti-retroviral (drugs)
ASPH	Association of Schools of Public Health
CDC	Centers for Disease Control and Prevention
CDD	Control of Diarrheal Disease
CHW	Community Health Worker
CLC	Community Leaders Council
CSH	Child Survival and Health
DIP	Detailed Implementation Plan
DDS	District Health Directorate (Portuguese)
DPS	Provincial Health Directorate (Portuguese)
EPI	Expanded Program on Immunization
FINNIDA	Finnish Development Agency
FP	Family Planning
HAI	Health Alliance International
HAART	Highly Active Anti-retroviral Therapy
HF	Health Facility
HIS	Health Information System
HP	Health Post
HSDS	Health Services Delivery Support
IEC	Information, Education, Communication
IMCI	Integrated Management of Childhood Illness
INE	National Statistics Institute (Portuguese)
IPT	Intermittent Presumptive Treatment (of malarial)
JSI	John Snow, Inc.
KPC	Knowledge, Practices and Coverage
KAP	Knowledge, Attitude and Practice (Survey)
LOP	Life of Project
MCH	Maternal and Child Health
MOH	Ministry of Health
NGO	Non-governmental Organization
OI	Opportunistic Infections (of AIDS)
PAC	Programme for Cultural Activists (Portuguese)
PATH	Program for Appropriate Technology in Health
PLWHA	People Living with HIV/AIDS
pMTCT	Prevention of Mother to Child Transmission
PSI	Population Services International
PVO	Private Voluntary Organisation
SP	Sulfadoxine/pyrimethamine or Fansidar ™
STI	Sexually Transmitted Infection
TBA	Traditional Birth Attendant
UNICEF	United Nations Infant and Children Fund
VCT	Voluntary Counselling and Testing
YHFC	Youth-friendly Health Center

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ANNEXES:

Executive Summary

The extension program of Health Alliance International (HAI) will continue to serve the Manica and Sofala Provinces in central Mozambique. Manica Province comprises 10 districts in a mostly rural region with a population of 1,200,000, the capital city of Chimoio, one other city (Vila de Manica), and nine towns of 5-15,000, most along the major roads. Sofala Province is adjacent to Manica, with a population of 1,516,000. Its capital, Beira, is two hours' drive from Chimoio on a maintained, paved road. Sofala comprises 13 districts, four with access from paved roads with the remainder quite isolated. An estimated 80% of the population lives in the two capital cities or the combined periurban/rural districts along the Beira corridor. Building on the successes of the first four-year child survival grant, this program addresses high maternal and child mortality (maternal/newborn care is 25% of effort), highly endemic malaria (40 % of effort), skyrocketing HIV prevalence (STI/HIV/AIDS is 40% of effort), and a resource-poor health system. IMCI is a component of the malaria strategy.

Formal program beneficiaries are 120,000 pregnant women and their infants annually, as well as 97,200 children under age 5 in the four districts with intensive bednets promotion/sales and IMCI support. Additional beneficiaries include youth (for VCT and STI/HIV/AIDS prevention and support); partners of women who test positive for syphilis; adults with malaria in the bednets districts; and community members reached by the community health education for all program interventions.

The goals of the CS extension program are to bring about sustainable improvements in maternal, perinatal, infant, and child health in two provinces and to facilitate the expansion of selected successful strategies more widely within Mozambique. The new program will scale up selected successful strategies and add new ones to address still unmet needs. HAI will phase out inputs to MOH and community groups to ensure sustainability of program benefits. HAI will also conduct targeted operations research studies to improve the quality of program interventions. Finally, the program will continue to strengthen the organizational capability of HAI and its partners.

The programme's STI/HIV/AIDS prevention efforts include community education/motivation; support for community home care for persons with AIDS; AIDS/STI education, voluntary counselling and testing (VCT), and community support for youth; and VCT for adults with a focus on the prevention of mother to child transmission (pMTCT) through the antenatal care system. Malaria control activities focus on prevention and appropriate case management of malaria in children and pregnant women including the introduction of IPT in 10 clinical antenatal care sites, support to the MOH for ongoing assessments of drug resistance, training in new drug regimens, and expanding the distribution and use of insecticide-impregnated bednets in selected districts. The maternal health care intervention aims to improve the quality of care available to pregnant women through improved training and service delivery capacity in health units, focusing on including updating health worker skills in STI management; expanding testing for syphilis in health facilities without laboratories by means of a rapid strip test, and improving community awareness and use of early antenatal care, birth planning, and early postpartum visits following home deliveries.

Program objectives are to:

STI/HIV/AIDS: 1) Increase motivation and skills for women and adolescent girls to protect themselves and their infants from HIV infection; 2) Decrease stigma associated

with HIV/AIDS in program area; 3) Improve capacity of health systems and communities to prevent further HIV infection and care for those already infected; 4) Establish VCT facilities and community support groups for youth with HIV/AIDS in 5 districts of the Beira Corridor; 5) Train "mini-PAC" youth theater groups for all sites with youth VCT; *Malaria:* 6) Increase malaria understanding among program women; 7) Increase malaria prevention practices among program households; 8) increase appropriate treatment of malaria symptoms in children; 9) Assure that insecticide-treated bednets are available in at least 20 commercial outlets in the two provinces; 10) Assure that the provincial health departments of Manica and Sofala provinces has upgraded malaria control policies and procedures; *Maternal and newborn care:* 11) Improve appropriate birth practices among program women; 12) Increase health facilities' implementation of syphilis testing in antenatal care; 13) Increase the availability of services for prevention of mother-to-child transmission of HIV in antenatal care; 14) Create, with the national MOH, revised prenatal care norms that include pMTCT, IPT, and syphilis screening. *Institutional/human resources strengthening*: 15) Develop and implement a plan for wide dissemination of HAI's CS lessons learned; 16) Train and orient at least one additional HAI headquarters technical staff member in managing and evaluating a CS program; 17) Assure that at least 10 Mozambican HAI or counterpart staff will be skilled in participatory training methods; 18) Assure that at least 5 Mozambican HAI or counterpart staff will be able to design, conduct and report on an operations research project related to their area of expertise.

The program's principal partner is the Mozambique MOH at national, provincial and district levels. Most HAI activities are fully integrated with those of the provincial and district health systems, which assures program sustainability. Another formal partner is Kubatsirana, a church-based organization that brings together the heads of local churches and mosques for AIDS prevention and home care, and which will be supported to train new groups. The program will work closely with the Cultural Activists Program (PAC) to provide health education via street theater, and with community leaders councils (CLCs) to link health facilities with their surrounding communities and disseminate key program messages. All of these partners participated in the development of this proposal. A new emphasis will enlist the support of leaders of evangelical Christian churches in both provinces to disseminate program messages. The program will be complemented by a USAID mission-funded health services strengthening project (HSDS) in Manica Province; a CDC-ASPH project to improve malaria control in the program area; a Gates Foundation grant for expansion of syphilis testing; ongoing UNICEF support for VCT services for youth; a REACH grant to expand VCT coverage for youth, and grants from WHO, Columbia University (MTCT+), and the Bill Clinton Foundation to expand access to prevention, HIV testing, care, and support services for HIV/AIDS among pregnant women, youth, and the general population.

The present grant supports a $1,250,000 cost extension that began on September 30, 2002 and will finish on September 30, 2007. Plans for the original application were discussed with the following USAID mission staff: Okey Nwanyanwu, Ilka Esquivel, Patricia Ferraro, and Chris Barratt, currently mission health officer. The DIP was prepared by Kenneth Sherr, Jawad Asghar, Sarah Gimbel, Mary Anne Mercer, Florencia Floriano, Maria Ana Chadreque, Paula Brentlinger, and Stephen Gloyd, in close collaboration with staff of MOH and other partners. The HAI contact person for the program is Mary Anne Mercer.

B. CSHGP Data Form

C. Description of DIP Preparation Process

Program planning began during the summer of 2002 after the CS extension grant was announced, with program and budgetary discussions included in the quarterly planning meetings of the provincial health departments of the two program provinces, Manica and Sofala. The core team was made up of HAI field staff (Kenny Sherr, Sarah Gimbel, Florencia Floriano, Maria Ana Chadreque, and Jawad Asghar) and headquarters staff (Mary Anne Mercer, Steve Gloyd, Paula Brentlinger). Program partners were staff of PAC and Kubatsirana, and the counterparts in the Maternal-Child health, HIV-AIDS and malaria dividions of the provincial health directorates (DPS). Focused DIP planning began with headquarters visits to the field during fall 2002, and again in March 2003 after the newly hired CS program manager was in country and undergoing orientation and language training. Meetings were held with staff of key partners to determine any changes needed in the original program plans. Two weeks' intensive planning took place in March, during which time key aspects of the program were reviewed in small group meetings and revisions made. The month of April was spent with team members writing their respective sections and coordinating the final work plan.

As this is a program extension, no specific start-up activities took place at the beginning of the grant. In mid-May a one or two-day implementation workshop will be held in which all staff and partners will be oriented to the extension program work plan, and how the CS program integrates with other DPS and HAI program activities.

D. Revisions from Original Proposal

There have been no changes to the program site, location, interventions, beneficiaries, international training costs, international travel, indirect cost elements, or procurement plan having significant budgetary implications. Other changes made since the development of the proposal are as follows:

Objectives:
A number of changes have been made in the program objectives, based either on the recommendation of technical proposal reviewers, the final evaluation recommendations, or on program experience since the proposal was developed, including information from the baseline survey.

HIV: The original objective targeting mothers' knowledge about maternal to child transmission (MTCT) has been changed, as the baseline rate was found to be over 80%. We will instead aim to increase the proportion of mothers who know that MTCT can be prevented. Because VCT services are becoming much more widely available in the program area, we will also aim to increase actual use of VCT services during pregnancy rather than simple knowledge of where to seek help for HIV/AIDS. At the suggestion of the technical reviewer we have eliminated the objective related to self-perceived risk of HIV and substituted a question that we are using to assess levels of stigma associated with AIDS: the percent of mothers who acknowledge knowing someone who has HIV

infection or AIDS. Activities with youth will focus on education, support and VCT-related services, rather than school-based services, which are being turned over to an NGO focusing on AIDS education in the schools. Organizationally we are aiming to assure that our three church-affiliated groups will be able to actually provide community-based home care for persons with AIDS (rather than assess community needs for care, as in the original objective). The objective targeting community AIDS plans was dropped on the recommendation of field staff. It was found that the social stigma, misconceptions and fears surrounding HIV and AIDS were too intense to allow communities to work together in a useful way, and that rather than supporting community efforts it tended to be divisive. (On the other hand, community transport plans were found to be very feasible and useful and will be continued.)

Malaria: We have added an objective suggested by the technical reviewer to assure that mothers know the signs in childhood illness that indicate the need for immediate treatment. We are continuing to use the objective that assesses the percent of children with fever in the prior two weeks who were treated with appropriate anti-malarials; however, we are using that indicator with some caution because of growing evidence of overtreatment of febrile children for malaria, both in the program area and elsewhere.

Maternal and newborn care: Testing and treatment for partners of women who test positive for syphilis has proven to be a challenge, so the target for that objective was reduced to 50% from the original 75%. Because the MOH already has a clear protocol for early and late postpartum visits, that objective was dropped, and we will instead aim to increase the proportion of women who have home deliveries to have an early post-partum check.

Strategies: The overall program strategies are as proposed, but a number of changes in the program area have required modification of some specific approaches. Support for the successful youth-friendly health services has been turned over to the provincial health department, at the request of both the funder, UNICEF, and the provincial ministry of health (DPS). ADPP, HAI's NGO partner on school-based anti-AIDS clubs, will continue the school-based activities including anti-AIDS clubs. Since the proposal was developed, the growing power of the evangelical churches regarding health matters has become more pronounced, and HAI will add a focused strategy to enlist the support and involvement of those church leaders in disseminating key messages related to the program interventions.

E. Detailed Implementation Plan

1. Program Monitoring and Evaluation Plans

Information system. No fundamental deviations from the current source of data for program monitoring and evaluation are expected. A hallmark of HAI's approach is to use and strengthen existing national data systems, and complement these data systems with internal process measures for performance monitoring and community-based data for evaluation purposes. This approach will continue, with at least two changes in facility-based data. First, the national data system that tracks syphilis screening will be revised. HAI will facilitate the change based on systems being developed and tested in Manica and Sofala Provinces under the current CS grant. Secondly, HAI will assist the provincial malaria units to develop an approach for systematic monitoring of malaria drug resistance, rather than the occasional drug resistance studies that are now carried out. This change will result in regularly available resistance information to guide regular reviews of malaria drug use policies.

Ongoing performance monitoring combines facility-based data with internal process measures, allowing for tracking progress in implementing planned activities as well as linking implementation with interim results. Evaluation efforts combine facility-based data with community-based data, garnered via KPC surveys and focused research activities. Established program indicators reflecting the various data sources will allow collecting data for monitoring purposes during the life of the project, as well insuring that the various data sources are integrated in order to best understand changes attributable to program activities.

Monitoring tools and data collection.

1) Household and community level:

Quantitative baseline survey The final evaluation of the previous CS program included a KPC survey among women of reproductive health age from both target provinces which will serve as the baseline survey for the expansion program. A standard EPI 30-cluster sample methodology was modified and sample size increased so that selected representative target districts were included in the sample; these same districts will be included in the final survey of both provinces. Information gathered included the Rapid CATCH questions where relevant. District-level health staff of each district sampled were trained and otherwise involved in the planning and execution of the surveys. The program has shared results of the assessments with DPS partners, who will in turn share the results with key MOH and district health staff. The survey will be repeated during the final six months of the program.

Qualitative studies useful in refining program efforts will include focus group discussions and key informant interviews. Topics: women's perceptions of barriers and benefits of early prenatal care and postnatal care; knowledge, beliefs, practices, attitudes, and care-seeking for STI/HIV/AIDS; understanding, preferences, access, and ability to pay regarding bednets and bednet re-treatment; and the roles of African fundamentalist church leaders in promoting health. An anthropologist who formerly

worked for HAI in the Chimoio office will be returning for the last of these studies in mid-2003.

2) Health facility/health worker level

Quantitative baseline summaries of existing DPS health services data will be collected, including routine health system data related to the program interventions; summaries of health unit staff's monitoring of community leaders councils activities; and the results of special studies such as *in vivo* drug sensitivity testing.

Qualitative information from health workers will be obtained regarding their attitudes and beliefs about HIV testing, particularly for pregnant women; the obstacles they perceive to increasing use of postnatal care; and, for the IMCI district staff, their perceptions of the usefulness of the IMCI training and implementation to date.

Pre- and post-tests will be conducted before and after health worker training to assess effectiveness in improving skills in management of STIs, opportunistic infections, and maternal malaria; use of universal precautions; and, for selected staff, adequacy of pre- and post-test HIV counseling skills, MTCT interventions, use of new malaria drug regimens, and use of the rapid syphilis strip test.

3) Health systems level

Malaria drug resistance assessments will be supported, in the process of assisting the MOH to shift to a routine surveillance approach from a sentinel site in Beira.

The health system capacity to support and maintain IMCI will be assessed via a program review of the pilot IMCI districts at the end of two years implementation. HAI will collect quantitative and qualitative information from health facilities with and without IMCI, including information on timely and correct treatment of fever; compliance with treatment; malaria morbidity and, if possible, case fatality; cost in time and resources to implement facility-based IMCI; and patient satisfaction. Data will be collected, using WHO protocols where available, via observations of patient management, laboratory quality control, review of passive health information data, and interviews with both patients and health workers.

Analysis, monitoring, and use of data. HAI staff summarize existing monthly program data and present the summaries in a simplified format that facilitates their use for program decision-making. Health system staff are then trained in the use of the data to understand trends, set targets, and otherwise make use of the information that is already available. Meetings with health unit staff focus on the presentation and use of easily available data for program purposes. Integrated seminars, carried out at the district level health units, provide a venue whereby community members and district health staff can offer feedback on service delivery and results of studies can be shared.

HAI also proposes to make better use of existing HIV data to enable it to be used as a tool for public information, including that provided by the print media. For example, although HIV antenatal seroprevalence data are collected annually, the data are not widely known or available. Staff plan to prepare the data currently available (extending back at least 6 years) in a graphic format so as to highlight the rapid increases in HIV prevalence that have occurred in recent years. Showing these dramatic changes should be

useful in impressing on communities, public and private sector groups the need for focused efforts to combat HIV and AIDS.

Finally, results will be shared with national policymakers via presentations of results at national policy meetings, individual working meetings, and presentations on program activities and results at the bi-annual National Medical Conference (*Jornadas de Saúde).*

Assessing and strengthening health worker performance. Other sources of information include assessments of health worker performance, availability of essential supplies noted at supervisory visits, assessments of health worker knowledge and skills during refresher training needs assessments, and use of the HIS reporting system for data on utilization of health services, morbidity, and mortality.

Program performance will be monitored according to the objectives and indicators. HAI staff will also obtain feedback on quality of CS-related services, and on which program approaches are working well and which need to be improved, through quarterly participatory reviews of CS progress with health system counterparts in the provincial health system. Internal monitoring of indicators is carried out quarterly by program advisors with input semi-annually from headquarters.

M&E skills of local staff and partners. HAI's extension program approach is fundamentally integrated—HAI works within the health system to bring about long-term, effective and appropriate changes that strengthen the MOH capacity. HAI's role within the provincial and district health structures is to improve the capacity of the MOH by improving health services while simultaneously increasing community demand for these improved services through the support of community-based organizations. Joint planning, supervision, monitoring, and evaluation using a counterpart system has proven to be the most effective method of improving provincial capacity. District level counterparts also work jointly with field staff to improve services and increase coordination with community leader councils and other community-based groups through district "integrated seminars." Training and follow-up field visits have proven to be particularly effective means of assuring quality in health services.

HAI also works with two main community groups, the cultural activists program (PAC), and Kubatsirana. Organizational strengthening of these local groups will be carried out as a part of the DIP workshop, and will include 1) assessing their organizational strengths and needs for strengthening; 2) drawing up a plan to address the needs identified; 3) implementing the plan; and 4) evaluating the effectiveness of the assistance provided.

Operations research ideas. The expanded program anticipates conducting operations research studies in: increasing girls' utilization of youth health services; approaches to marketing of bednets and particularly to increasing rates of retreatment; health system options for increasing coverage with postnatal services; and assessing the effects of knowledge of HIV status on subsequent risk behavior.

2. Summary of Baseline and Other Assessments

Baseline data. The baseline data for this program included a knowledge, practices, and coverage baseline survey of populations in both provinces (see Annex 3). Key findings are as follows:

HIV: There was high knowledge that HIV could be transmitted from mother to child, but only 12.5 % of mothers knew that MTCT could be prevented; this important issue is targeted in a new objective. Only 30% acknowledged knowing someone with HIV infection or AIDS; 46% stated that they knew someone who had died of AIDS and half of those were friends or family. With testing, counselling, and care becoming much more available we anticipate that the stigma of the diagnosis will lessen, and the proportion of mothers who will state they know someone affected by HIV or AIDS will increase. Nearly one-fourth of women stated that their chance of acquiring HIV infection was nil or minimal, indicating what is probably an unrealistic assessment of their own risk.

Malaria: 57% of mothers knew at least two signs indicating the need for immediate treatment of a febrile child. Asking about measures used to prevent malaria, 12% said "none" and only 14% stated bednets. Only 20% of mothers used a bednet during their last pregnancy, and only 11% of children slept under an impregnated bednet the night before the survey. Nearly 65% of mothers gave an antimalarial to a child with fever in the past two weeks, and we have targeted an increase in that figure to 80%. However, it is with some concern that we use this indicator, since there is indication of extensive over-treatment of febrile children for malaria.

Maternal/newborn care: Only 27% of mothers had an emergency transport plan during the last pregnancy. 85% of survey women indicated that their last delivery was in a health facility. Nearly all had some prenatal care during their last pregnancy, but early (first trimester) prenatal care was estimated at only 22%. Approximately 48% of mothers (from the HSDS survey) who delivered at home had an early (within 2 days) postpartum visit.

Bivariate analysis: Data were further examined for associations between various measures of socio-economic status and variables of interest. A wide range of social (mother's literacy, language of interview, sources of information about HIV) and economic (type of flooring, piped water in the house) factors were significantly associated with many of the outcome variables of interest. Of particular importance for the program efforts were the following: 1) use of bednets was highly correlated with both social and economic measures, with the less educated and less well-off also less likely to have a bednet; 2) better flooring in the home (a basic economic variable) was positively and significantly associated with taking sick children to a health facility (rather than a traditional healer or drug seller); 3) literacy was positively associated with having had at least 3 prenatal visits during the last pregnancy; and 4) mothers who were not fluent in Portuguese, not literate, and who lived in houses with dirt floors had worse access to nearly every source of information about HIV/AIDS (the only exception was CLCs, which was a relatively minor source of information for most respondents). This analysis has major implications for implementation of several of the program approaches. Of

great concern is the very large difference in bednet usage for the less well-off families compared to the better-off, with a ratio of nearly 1:3 when comparing the type of floor.
Comparison of baseline survey with national figures. The baseline survey represents a sample of households having reasonable access to health facilities (see sampling methods in baseline report). Health services use is thus higher than the national average and also higher than the all-province data. For example, prenatal care coverage (at least one visit) in the HAI surveyed population in Manica province was 96%, whereas the 1997 DHS survey reported 76% (DHS, 1998). HAI did not attempt to estimate mortality in the baseline survey. The most recent national health estimates are as follows: under five mortality: 206/1000 live births; infant mortality 129/1000 live births. The under-five mortality is the 10th highest rate described in any country. The estimated maternal mortality ratios for the country is 1100/100,000 (UNICEF, 2000). Estimates for urban prenatal HIV seroprevalence are 25% in Chimoio and as high as 31% in Beira (CNCS, 2001). Syphilis infection has been estimated between 7-12% prevalence in pregnant women throughout the country. The main causes of maternal mortality are thought to be obstructed labor, eclampsia, malaria, anemia-hemorrhage, infection, and puerperal and post-abortion sepsis (WHO, 1994). There has been as yet no changes measured in syphilis infection rates, although in the main Chimoio hospital, stillbirth rates (many of which would be expected to be due to syphilis infection and/or malaria) dropped from 55/1000 births to 42/1000 between 1999 and 2000, according to the Manica DPS.

The causes of infant and child mortality in this region of Mozambique are believed to be the same as those of other parts of sub-Saharan Africa: malaria, malnutrition (including low birth weight), HIV infection, diarrheal diseases, acute lower respiratory infection, and congenital syphilis. Low birth weight infants are estimated to be 20% of live births nationally (UNICEF, 2000). Nutritional status surveys by DHS in 1997 showed 8% of children under age 5 having moderate to severe wasting, and 36% having moderate to severe stunting (DHS, 1998). Malarial resistance to chloroquine is believed to be increasing; in October 2002 the MOH reported that resistance to chloroquine was as high as 59% overall, varying between 38%-86%. These high rates have led to plans to revise the malaria drug regimens for implementation some time during 2003.

Health systems data were reviewed to assess utilization of maternal care services, antenatal care and syphilis screening rates, access to/use of VCT and MTCT services, malaria cases, and resistance information. A consultant from PATH conducted a baseline assessment of current community mobilization activities related to the need to increase early antenatal care, resulting in detailed recommendations. An operations research study was conducted in Manica province of health provider adherence to the IMCI protocol for assessment of the child with fever, comparing 8 clinics with IMCI-trained staff with 8 clinics where staff had not been trained (see Annex 3 for summaries of both reports).

Coverage estimates. Coverage estimates vary widely by geographic region and intervention, making average use rates less useful than intervention and area-specific rates. Based on DHS data and the program's surveys (for CS and for the HSDS project), we estimate coverage with maternal care services to be 60% in rural and 95% in peri-

urban and urban areas. Services for HIV/AIDS are relatively new, and vary greatly by type of intervention.

Disease surveillance. Relevant disease surveillance information is as follows: HIV seroprevalence: currently antenatal seroprevalence is 25% in Chimoio and 31% in Beira. AIDS cases are not reportable. Malaria cases reported in Manica province for 2002 were 388,354, with 294 reported deaths. In Sofala province, 364,899 cases were reported in 2002, with 498 reported deaths. Malaria cases and deaths are not reported by age group. Given that malaria was recently introduced into the HIS, and many cases of malaria are not seen by health professions, these data may under-estimate the magnitude of the problem. . However, a recent drug resistance study (unpublished data) have indicated that only about 20% of children believed to have malaria by health-facility staff had significant parasitemia on laboratory testing, so there was significant over-diagnosis in the settings studied.

MOH services and case management policies. STI/HIV/AIDS: Until late 2001 the only government services for HIV/AIDS was an under-funded and under-equipped Day Hospital in Chimoio. Since then HAI has obtained funding to work with the DPS in rehabilitating a building for a Day Hospital at the Central Hospital in Beira, with 240 patients registering in only the first month of service. HAI has also worked with MOH in setting up 5 VCT sites for the general population in both provinces, setting up pMTCT services in 10 antenatal clinics, establishing support groups for HIV-positive persons, and training and developing links with home care groups for persons sick with AIDS. We are in the process of developing youth VCT centers with supportive services in an additional 5 sites. MOH has clear protocols and guidelines on the treatment of Opportunistic Infections (OIs) to which all programs adhere. Treatment of AIDS patients in the Beira Day Hospital is guided by both the national guidelines for antiretroviral therapy and also the clinical manual developed by the MTCT Plus project of Columbia University, which is funding the treatment demonstration project located there.

Malaria: The first line drug for malaria treatment was chloroquine until late 2002, when the official decision was made to change the first-line regimen to Sulfadoxine/ pyrimethamine or Fansidar ™ (SP) plus Amodiaquine. However, as of the time of this writing implementation of this new policy had not yet begun. HAI will be active in assisting the health department of both provinces to provide training, follow-up, and procurement of the new medicines when the transition in operationalized. Similarly, the MOH has made a commitment to initiate intermittent presumptive treatment (IPT) for malaria in antenatal care using SP as the presumptive treatment, but that policy has yet to be implemented. HAI will play a major role in rolling out IPT in selected antenatal clinics in the program area, monitoring carefully the implementation of the intervention, and assisting the MOH to then implement the policy more widely throughout the country. Other malaria control activities include training of health workers in IMCI, discussed elsewhere.

Maternal/newborn care: The MOH has standardized protocols for prenatal, delivery, early postpartum (for home deliveries), later postnatal, and newborn care. Although home deliveries still constitute a large proportion of all births, the utilization of health units for deliveries has increased as care by trained midwives becomes more widely available.

HAI is involved in assisting the MOH in developing several major policy changes for antenatal care. One such change, as noted above, includes initiating IPT in antenatal care, which is discussed in the malaria control section. The other two major policy changes are pilot efforts to prevent mother-to-child transmission (pMTCT) of HIV, and expanding syphilis screening to include health units without laboratory access. HAI is working with the MOH in both provinces to develop comprehensive pMTCT services in at least 12 sites. Syphilis screening is currently provided in most antenatal care sites with laboratory access, but HAI will conduct a pilot expansion of syphilis testing via a new rapid strip test to a number of new sites throughout both provinces that currently do not provide syphilis screening. MOH services are thus being expanded both as to type of services provided and the geographic coverage of what have become, with HAI's assistance, standard services.

Quality of services. Service quality varies. The biggest obstacles to high quality clinical care are inadequate staffing, either where remote rural units have empty posts or where more urban clinics are too heavily utilized for the available staff. Staff are generally well-trained but morale varies due to low salaries and in some cases stockouts of medicines or supplies. Malaria is seldom diagnosed by laboratory means because of insufficient access to microscopy and health workers' lack of confidence in laboratory results; this appears to result in over-treatment of malaria. Essential drugs are, however, usually available except for cases of miscalculations of stocks needed. Client-staff interactions similarly vary in quality. An emphasis of the expanding HIV/AIDS interventions is supporting the development of higher standards and norms for client-staff interactions.

Rapid CATCH Indicators (average value for each indicator) are seen after the Executive Summary.

3. Program Description by Objective, Intervention and Activities

The objectives support achievement of the CSHGP intermediate results IRs) as follows:

IR1: Increased quality of MCH interventions. The program focuses on three of the problems having highest morbidity and mortality in the target area, carrying out interventions of proven high quality and effectiveness. There is a clear focus on increasing coverage by scaling up the approaches found most effective.

IR2: Increased sustainability of MCH interventions. Because HAI collaborates fully and at all levels with provincial MOH officials and staff, sustainability is inherent in the program design. The program serves a total population of 2.7 million by supporting the continued development of quality services within the MOH system.

IR3: MCH program strategies, tools and approaches developed/adapted, tested, and applied. HAI's CS program in Mozambique includes a number of strategies and tools that are new to Mozambique and which, if successfully implemented, are likely to be adopted nationally by the MOH.

INTERVENTION SPECIFIC APPROACH: STI/HIV/AIDS

Objectives:

The program's STI/HIV/AIDS objectives include integrated prevention and care activities, since prevention of new infections and care for those already infected are both seen to be of critical importance. In addition to its other benefits, a critical reason for supporting care for persons with AIDS is the potential result of reducing stigma associated with the infection. The extreme stigma of AIDS often results in an unwillingness to address personal risk of acquiring HIV infection, and thus reduces the likelihood that program efforts will bring about sustained reduction of high risk behaviors. Program staff believe that without adequate care and support services, stigma will remain high at the community level.

HIV Objective 1: Increase motivation and skills for women and adolescent girls to protect themselves and their infants from HIV infection.

Activities pertaining to this objective include extensive street theater production and radio campaigns to educate about the risks of HIV/AIDS in this population, and to motivate the adoption of preventive behaviors. It will also be used to publicize the locations of and benefits of accessing prevention of mother-to-child transmission (pMTCT) and voluntary counseling and testing (VCT) services. The design of these radio campaigns will be developed and field tested with the support of the "Positive Mothers" support groups in each province. One possible approach is to explore support to develop a long-playing radio-"novela" about women who opt to be tested for HIV. In addition, ongoing training and refresher training for health workers on pMTCT and VCT will continue, in order to ensure that they are communicating the clearest and most effective messages to their clients. Finally supporting the expansion of access to VCT and pMTCT services (to 8 and 12 centers, respectively) is a critical activity to reach a greater proportion of the population.

HIV Objective 2: Decrease stigma associated with HIV/AIDS in the program area.

The activities listed above are included in the strategy to decrease the stigma of AIDS. PAC presentations, radio programming, sympathetic stories in the print media, training of religious leaders, and frank discussions with community leaders will all be used to reduce the intense fear and stigma associated with a diagnosis of HIV infection or AIDS. . Community education and media campaigns will inform and educate the population on new resources for HIV/AIDS care and support in the health and community sectors.

With improved HIV-related services the fatalism that often accompanies stigma will be reduced and the community will be empowered to take a more active role in maintaining its health

HIV Objective 3: Improve capacity of health systems and communities to prevent further HIV/STI infection and care for those already infected.

Reducing the burden of sexually transmitted infections (STIs) in the general population also helps to reduce HIV transmission. In order to increase health system capacity in this area, all district and provincial health staff will be trained in the new STI protocols when they are finalized at the national level (expected in early 2004). This training will also incorporate the basic principles and practical implementation of universal precautions, as well as the diagnosis and management of opportunistic infections (OIs) associated with HIV infection and AIDS. In addition, a youth STI clinic is being rehabilitated at the Beira Central Hospital and will be an important referral link for youth in need. The MOH has guaranteed a full time nurse to staff the clinic, ensuring proper functioning over the long term.

In addition, three religiously-affiliated community groups will be supported by the program to provide home-based care (HBC) services through an existing church group, Kubatsirana. The porgram will include spiritual support, basic first aid, bathing and hygiene, material assistance, and other supportive care, for individuals and families affected by HIV/AIDS. As HAI has a long standing and successful connection with the health system, a particular focus of the support will be the improvement of the quality of basic clinical care provided by the HBC volunteers. Strengthening the coordination between these community-based groups and health workers via regular meetings and supervision will be a target activity. Finally, the introduction of improved comprehensive HIV/AIDS care in the project area, including improved treatment of opportunistic infections (OIs) and antiretroviral (ARV) therapy, via support from various grants including Global Fund, the World Bank's Multicountry AIDS Project, and the Bill Clinton Initiative, will also contribute to a reduction in associated stigma.

HIV Objective 4: Establish VCT facilities and community support groups for youth with HIV/AIDS in 5 districts along the Beira corridor.

Building up a network of services to support those with HIV/AIDS is an important component of the integrated prevention and care approach. Presently HAI has considerable experience in both the establishment of Youth Friendly Health Centers (YFHCs) and the start up of successful VCT sites. Targeting the most vulnerable populations for VCT services has been an especially effective intervention. Although the majority of those tested to date at VCT sites in central Mozambique are young, few are young non-pregnant women. As this population is especially vulnerable these youth VCT sites will be located at the YFHCs and staffed by nationally trained youth VCT counselors. In addition, the project will also support the development of youth support groups for people living with HIV and AIDS (PLWHAs). The program will sponsor a coordinating body for the youth VCT sites that includes youth PLWHAs, health workers and HAI personnel, which will design a referral manual for youth-relevant services for all health workers in the program area.

HIV Objective 5: Train and support mini-PAC youth theater groups in sites with youth VCT facilities

HAI's longstanding relationship with the theater group PAC (the program of cultural activists) grew considerably during the last funding cycle. In this new grant phase the plan is to expand PAC's reach specifically among young people through the development of a total of 5 youth "mini-PACs" at each of the YFHCs with youth targeted VCT services. The primary responsibility of the mini-PACs will be the dissemination of key messages related to HIV/AIDS and young people. The groups will develop and perform dramas that address keys concerns for young people, such as gender dynamics, filial expectations, and economic stresses, all in relation to the HIV/AIDS epidemic. We expect that these activities will encourage young men and women to find out their HIVstatus and make positive life choices, whatever the result.

Behavior Change Communication approach

Research carried out in central Mozambique over the last 5 years has demonstrated that considerable knowledge exists at the community level on HIV/AIDS transmission and prevention (CS baseline, HSDS baseline, etc). However, this basic knowledge has not translated into positive health seeking behaviors or increased perceptions of risk. In a survey of 2680 women carried out in 2001 in four districts of Manica province, less than 3% women reported ever using a condom. In this same survey, over 40% of women reported themselves to be at no or low risk for contracting HIV. Many projects and programs have shown that a multi-pronged approach to prevention that includes personal risk assessment is necessary to accomplish effective behavioral change at the individual and community level.

Presently, various improved health services for those with HIV are starting to develop in Mozambique. However, education is still needed at the community level to maximize service utilization. As previously mentioned, self-identification of risk must be incorporated into media and educational campaigns for highly vulnerable groups as well as the general population. The behavior change communication strategy for the HIV/AIDS component of this project will reinforce the existing knowledge base in the areas of HIV/AIDS transmission and prevention methods. It will also include strategies to help communities and individuals personalize their knowledge and risk, and provide them with concrete information and motivation to use available HIV/AIDS services.

These services, specifically VCT, pMTCT, improved management of OIs, and PLWHA support groups, provide HIV positive men and women with concrete benefits. Women, in particular, cannot force their partners to use condoms, but they can accept counseling and testing services, treat OIs as needed, participate in support groups, and if they are pregnant dramatically reduce rates of transmission to their babies. Although most services presently stop short of providing anti-retroviral (ARV) therapy, building community appreciation for the benefits of care for HIV infection will increase the success of adherence to treatment when comprehensive HIV/AIDS care, including ARVs, becomes available.

Media campaigns via radio spots, street theater productions, pamphlets and posters will introduce and explain the benefits of these new, improved HIV/AIDS services. Traditional languages will be used for radio and theater productions and Portuguese will be used in written materials, as few people are literate in dialect. Further knowledge-based training at the community level will be carried out via the Community Leaders Council meetings and the church-based groups that are involved in home-based care (HBC) for end-stage AIDS patients and their families. Health worker training and follow-up supervision in STI/HIV/AIDS management is another critical component in facilitating behavior change, as improving the clinical and counseling capacity of health workers ensures the continued use of improved health services. A special focus in all training will be the introduction of the HIV/AIDS referral network, including clinical and community-based services.

Quality Assurance

Quality assurance must be conceptualized simultaneously at the client, health worker and systems level. Satisfaction monitoring must be standardized so that client input is continuously included in the design and updating of programs. Client satisfaction surveys will be carried out as standard practice in all HAI-supported health delivery sites. HAI and Provincial health personnel will analyze the survey results quarterly with the health providers in order to improve the quality of care.

Health worker supervision is intensive and participatory, so that health workers learn to critically analyze their work and highlight where changes are needed to improve service delivery. New service sites are supervised weekly for the first three months and then drop down to monthly if no outstanding problems develop. All supervision includes both HAI and health department staff in order to facilitate problem solving on the spot and build health system ownership of sites.

Finally, systems development is crucial to the establishment of quality HIV/AIDS services. One VCT site, or one HBC program will have no long standing effect or change community perceptions and stigma. The program services are designed to be linked to one another, and the community is at the same time informed that a network of care and support options is available. Reinforcing referrals between sites will maximize the effect of individual programs and will be crucial to insuring good quality of care in this resource poor setting.

Availability of Drugs, Vaccines, Micronutrients, Equipment, etc…

Essential commodities. Medications needed are nevirapine tablets and syrup, multivitamins, iron/folate tablets, and OI drugs (cotrimoxazole, INH, loperamide, diflucan, acyclovir, etc). For testing we need HIV tests and reagents (Determine and Unigold), capillary tubes, lancets.

Reliability of supply. Medications are currently bought via private importers/ pharmacies by donors or NGOs to supplement those available via the national health system. The reliability of these medications via the private sector is fairly good and the prices are not extravagant, with the exception of diflucan and a few others. There are frequent stock outs of these medications, however, including the supplements, in the public health sector. HAI (or the MOH) currently has matching funds to pay for these medications via grants from Unicef, MTCT Plus, WHO/OPEC and WHO/Italian Cooperation.

HIV tests and reagents are currently available via private importers/pharmacies. In addition, through CDC support, the MOH supplies free HIV tests and reagents, which must however be transported from the capital to their destination. HAI has matching grants in this area and can use the CDC/MOH supply for the VCT or pMTCT sites.

Capillary tubes and lancets are available via private importers/ pharmacies. The cost for capillary tubes with EDTA solution, which is preferable, is fairly expensive, however. Presently HAI has sufficient funds to cover this cost via cost sharing grant, although at a later date the use of generic capillary tubes may be necessary.

Supply constraints. The MOH needs to develop a comprehensive delivery system for the HIV tests and reagents. At present NGOs are shouldering the burden of delivery but if large scale VCT scale up is to occur an actual plan will need to be developed and instituted. At present HAI has two approaches to overcoming this constraint: one, secure grants to pay for tests (the current but short-term solution), and two, advocate for an improved system at national forums on VCT and pMTCT (the preferable and longer-term alternative).

The price of some medications is prohibitive, providing financial barriers for the scale up of existing programs. However innovative donation programs have done a lot to lower these barriers. For example, Boehlinger Ingleheim (BI) has just formally accepted Mozambique's application to receive free Nevirapine for pMTCT. Other donation applications still pending include Pfizer (Fluconazole), and Abbott (Determine tests). Advocating and assisting the MOH to participate in donation programs is an important form of technical assistance.

Sustainability of supply. After the CS program and other supportive grants end, major funding from the Global Fund, World Bank Multicountry AIDS Project and the Bill Clinton Initiative will be able to absorb these costs. Sustainability via support from the MOH of Mozambique, one of the world's poorest countries, is not realistic at this time.

Monitoring quality of supplies. All medications and tests that enter Mozambique are controlled for quality. The project will monitor medications and tests to assure that they are not used after their expiry date. Nationally, the quality control of HIV tests is carried out continuously via the epidemiology department of the MOH.

Ensuring safety. Post–exposure prophylaxis after accidental exposure to HIV-infected materials is available at all provincial capitals, and presently the program is being expanded nationally to all health centers. Routine monitoring and supervision of testing sites ensures that stock-outs of gloves and other materiel needed to implement universal precautions does not occur.

Training and supervision. Training in HIV counseling, testing, and Nevirapine administration is carried out at the national level via a standardized MOH 2-3 week workshop. After initial training, counselors receive bi-annual refresher courses. In addition, all health workers involved in pMTCT (pediatrics, maternity, maternal-child health) participate in a standard three day introductory training sponsored by HAI and the provincial health department to facilitate compliance and secure ongoing support.

Supervision of VCT and pMTCT sites includes a review of supplies of essential items. Stock cards are attached to all items associated with the project and the health worker is responsible for ensuring that stock outs and loss do not occur. Supervision of the distribution of multivitamins and iron/folate tablets, which takes place monthly at the "Positive Mothers" support groups, is carried out by the counselors and monitored by health workers and HAI staff. In the future, this monitoring role may be transferred over to the leadership of the individual groups with minimal technical supervision by health staff.

MALARIA

Objectives:
The aim of the malaria intervention is to reduce exposure to malaria among pregnant women and children under five, building on existing approaches and implementing new approaches to improving case management and/or prevention of malaria in those same groups. Program activities align with CSHGP recognized malaria activities, including improving malaria disease recognition and standard case management, promoting insecticide-treated mosquito nets, and promoting antenatal prevention and treatment of malaria. Further details on specific activities linked with each objective are provided below.

Malaria Objective 1: Increase malaria understanding among program women

Though malaria transmission is high in both Manica and Sofala provinces, understanding of malaria is generally low. Knowledge of the link between mosquitoes and malaria, as well as behaviors linked with preventing malaria and appropriate case management, are generally weak. Increasing community knowledge about malaria transmission and prevention, new treatment protocols, and the need for changing practices related to the disease are all necessary steps in malaria control.

As with other interventions, a multi-pronged strategy will be employed to increase understanding of malaria among program women. Radio, street theater, religious leaders,

CLCs, and health workers will all be used to disseminate contextually appropriate, standardized messages on malaria. This strategy builds on the successes of the first phase of program implementation via a stronger role of religious leaders in social mobilization, which recognizes their important role in defining health seeking behavior in the community. Social mobilization messages will include the basics on malaria, reinforcing the link between malaria and mosquitoes, symptoms of malaria, and appropriate prevention and care-seeking behavior including insecticide treated nets (ITNs). Before dissemination, IEC messages are field tested and adapted as needed, and those relaying the messages are trained to assure that key messages are accurately and consistently disseminated.

Malaria Objective 2: Increase use of insecticide-treated bednets in 8 target areas

At this time in Mozambique there is no widespread distribution of bednets. UNICEF, in conjunction with PSI, has completed the first phase of a large-scale social marketing campaign for ITNs in Zambezia province, but in Manica and Sofala provinces utilization is still low, especially among the disadvantaged. Re-treatment continues to be a problem among those who own nets.

In a limited number of sites in two districts, an experimental voucher system will be piloted offering subsidized bednets for pregnant women. Voucher programs have been shown to be effective in increasing utilization among pregnant women, and will be assessed as an operations research component of the program. Local health workers, with technical support from HAI staff, will be responsible for managing the bednet sales, including supplying nets, collecting sales proceeds, training vendors and monitoring sales. At each site one trained vendor residing nearby the health facility will be responsible for collecting vouchers and selling bednets at an accessible rate, and will receive an incentive for each bednet distributed. After one year of implementation the pilot voucher program will be assessed, and a report produced for national MOH policymakers, local MOH counterparts, PVOs, and interested donor representatives.

The current social mobilization strategy will be expanded in order to increase and improve utilization of bednets. As with other interventions, this mobilization will use a number of influential communication routes to promote targeted bednet sales and re-treatment, including CLCs, religious leaders, street theater, radio announcements, and education by health workers. Messages will focus on increasing usage among pregnant women and children under five, linking bednets with malaria prevention, and the need to re-treat bednets for effectiveness. A number of retreatment strategies will be promoted and tested for effectiveness, with a focus on mass retreatment organized by CLCs.

Malaria Objective 3: Increase appropriate treatment of malaria symptoms in children

The introduction of the IMCI strategy began in June 2001 as part of a national pilot experience in 4 districts in Manica province, and in mid-2002 in 5 districts in Sofala province. Health workers from facilities not covered in the IMCI training are being trained in basic protocols for CDD/ARI/malaria management (termed simplified IMCI).

HAI is providing technical assistance for the supervision and training of clinical IMCI and CDD/ARI/malaria management in the four IMCI focus districts in Manica province as part of the Health Service Delivery and Support (HSDS) project funded by the USAID Mission in Maputo and managed until recently by John Snow, Inc. HAI is also supporting community-based IMCI (CB-IMCI) through the same project, and will continue to do so through August, 2004.

Through the Child Survival project, HAI will continue to support both clinical and CB-IMCI in Manica Province via health worker supervision, promotion of bednets, and training of CLCs in community-based IMCI messages. In addition, the program will complement CB-IMCI activities in Sofala as needed (such as through the promotion and sales of bednets). HAI will support future MOH efforts to scale-up both clinical and CB-IMCI in additional districts through technical assistance; monitoring and supervision of health workers; and training CLCs and religious leaders.

Malaria Objective 4: Insecticide-treated bednets will be more widely available in both provinces

As noted above, bednet availability is limited in the program area. This program will build on the existing bednet sales experience by expanding to an addition 18 sites, bringing the total number of sites to 20 in 8 districts. Both commercial and CLC entities will be trained in the basics of malaria transmission, prevention and referral. Bednet vendors and health workers will receive a training on the bednet program, which includes proper bednet usage, re-treatment, and use by priority groups such as pregnant women and children under five. A fundamental aspect of increasing bednet sales will be to improve the supply of bednets to the local vendors. Working with other agencies involved in bednet distribution, including the MOH, PSI and UNICEF, will be essential in solving bednet availability problems.

An assessment of the bednet initiative will be carried out in year 2 of the program to determine the effectiveness of the approaches being used. This assessment will focus on sales and re-impregnation figures; qualitative information from CLC vendors regarding potential sustainability of this income generation initiative; bednet coverage in pregnant women and children under five; and measures of social inequity and bednet ownership. A report will be provided on the bednet experience and provided to MOH policymakers, donors, and other PVOs/NGOs active in malaria control.

Malaria Objective 5: The provincial health departments of Manica and Sofala provinces will have upgraded malaria control policies and procedures

As new global health initiatives (such as the Global Fund to Fight AIDS, Tuberculosis and Malaria) provide new resources for malaria control, and scientific advances change available treatment and prevention options, it is important for the MOH to rapidly assess and adapt malaria control policies and procedures. The process of standardizing policies and procedures is especially needed at the provincial level, where policies are implemented and where key information flows back to the central level health authorities. Three key areas have been identified to support the process of upgrading malaria control

policies and procedures: drug resistance monitoring, updating treatment regimens, and intermittent presumptive treatment (IPT) for pregnant women.

Drug resistance monitoring has been essential in providing national authorities with drug resistance results needed to inform key policy decisions. As the MOH embarks on changing anti-malarial regimens, and as WHO recommendations change, it is ever-more important that regular malaria drug resistance testing/surveillance continues. HAI has worked to build the capacity to carry out this surveillance in three health facilities in Manica and Sofala provinces, and will continue to support three resistance studies according to the standard WHO protocols. In order to begin to phase out direct support, local MOH staff will carry out the studies with technical assistance and supervision from HAI staff and national program managers where possible. A manual will be produced as a result of that effort to standardize the procedure, using the newest WHO standards for resistance testing. By the 4th year of the program DPS staff are expected to be able to carry out the resistance monitoring with only minimal technical support from the program.

Linked with monitoring drug resistance will be supporting the MOH in training and implementation of new malaria drug regimens when national roll-out begins. Changing drug regimens includes increasing health worker and community knowledge about the new treatment norms via training and social mobilization efforts (see Objective 1, above), facilitating communication with national level authorities in cases of logistical problems, and adapting drug resistance monitoring protocols detailed above.

The MOH has shown increasing commitment to begin implementation of intermittent presumptive treatment (IPT) for malaria in pregnancy. Protocols have been developed to provide treatment doses of sulfadoxine pyrimethamine (SP/Fansidar) up to three times during pregnancy, although to date implementation has not begun. This project will work with the provincial MOH to initiate IPT for 10,000 women in 10 health facilities in 2 districts in Manica and Sofala provinces beginning in year 1. The project will include close cooperation with policy makers at central levels, and intensive health worker training and supervision at provincial and district levels. Training will include basic principles of IPT and anemia management, other norms of malaria care including use of bednets, logistics management, community IEC, development of monitoring systems, and simple operations research to assess the health system factors that are necessary for successful implementation of this approach. Frequent supervision of trainees will be carried out to insure adequate understanding and implementation of norms, and adequate drugs and necessary materials. An assessment will be carried out after 1 year of implementation to assist policy makers in defining needs for broader roll-out of IPT nationwide.

Behavior Change Communication

Understanding beliefs, knowledge and practices around malaria is critical to understanding and improving care-seeking patterns related to the disease. An ethnographic study carried out among women and caretakers in the project area found that there are over 60 different taxonomies associated with febrile illness, each with

distinct etiology and care-seeking patterns (Chapman, 1997). In addition, the link between mosquitoes and malaria is not clearly understood by caretakers.

Recognizing the complexity of the conceptualization of febrile illness and linkages to care-seeking is important to understanding the need to address current beliefs, knowledge and practices related to malaria. This program will actively work to increase understanding of the link between mosquitoes and malaria, as well as to push for early care-seeking at health facilities for children with febrile illness, via utilizing multiple, influential community agents and mediums. Radio, street theater, and educational sessions will be used to widely disseminate key malaria control messages. In addition, influential community actors, including CLCs, religious leaders, and health workers, will be used to encourage behavior change at the community level. .

The results of ethnographic and community KPC surveys is being applied to design educational messages that target the individual and community leaders, focusing on increasing knowledge about malaria transmission, recognition and treatment, as well as increasing positive health-seeking behaviors. Engaging community leaders in the dissemination of educational messages will contribute to change of practices and behaviors.

The field of malaria control is rapidly changing. At the policy level, HAI will assist MOH staff to stay abreast of the experience of other countries in the control of malaria. Previous experience has shown that providing results from field initiatives has been effective in guiding change at the national level. For this reason, experiences from the field will be documented and shared with national policy makers, including bednet distribution and re-treatment strategies; drug resistance monitoring; and pilot IPT activities.

At the community and health system levels, activities used to raise knowledge and shift opinion include training of CLCs, religious leaders, and health workers in malaria control. This training will be accompanied by educational messages from a number of sources, including radio and PAC, which are expected to equip leaders with important information that they will then transmit to the communities they represent.

At the individual level, behavior change activities will focus on increasing knowledge and using local decision-makers to promote positive change. Radio spots, street theater and educational sessions will be used to increase knowledge on malaria among caretakers and heads of households. Using health workers, CLCs and religious leaders to transmit these messages, as well as providing prevention material via bednets, are expected to impact behavior change at the individual level. .

Quality Assurance

Quality assurance methods differ according to the specific activities within the malaria intervention. These methods can be grouped according to those corresponding to

household or community level activities, and those focusing on health systems.

For activities targeting the household or community level, including social mobilization and bednet sales, quality assurance will focus on the effectiveness of messages and services being provided. Ensuring that messages are contextually appropriate and respond to community perspectives and needs is essential to have a quality intervention targeting the household or community level. For the bednet program, including the health system in the sales process will be important to both provide technical advice to bednet vendors and reinforce the linkage between the community and health services.

For activities targeting the health system, including IPT, drug resistance studies, and improving case management of malaria in children under five, quality assurance methods will focus on technical performance, effectiveness, and efficiency of services, and will include supervision, monitoring and evaluation. Health workers who are trained in malaria control will receive frequent and intensive supervision post-training, which will include a checklist to guide the supervision process. In addition, monitoring and evaluation mechanisms will be used to identify health facilities and workers who require more assistance in meeting their targeted activities. Supervision visits will emphasize improving quality of services, including troubleshooting and on-the-job training to rectify identified problems. A major focus of the QA activities for clinical services will be the implementation of new guidelines for malaria drug treatment that are expected to be implemented in 2003.

Availability of Drugs, Vaccines, Micronutrients, Equipment, etc.

Essential commodities. Essential commodities include bednets, insecticide, gloves, cups and drinking water (for health facilities), and additional quantities of SP for the IPT pilot initiative.

Reliability of supply. At the moment the bednet supply is unreliable and problematic, although steps are being taken to address this problem in both the short and medium-term. Previously, PSI was able to supply limited quantities of nets for a reasonable price, but this option is not expected to be available now until late 2003. In the meantime, bednets imported from Tanzania are being purchased on the local market. These nets require approximately one month for shipping and are more expensive than PSI nets, as they are imported via the private sector. The alternative of contracting local tailors to sew bednets also is being evaluated.

Insecticide for re-treatment is readily available in large quantities via PSI and local vendors. SP is also readily available, via the MOH, and in cases of insufficient supply, the private sector. Supply problems for the drugs to be included in the new treatment regimens will be closely monitored with feedback to the MOH and DPS to assure constant supplies.

Supply constraints. As noted above, the primary constraints for supply acquisition is related to availability of bednets, which are expensive and require time for importation. Proper planning and budgeting will overcome these constraints in the short term, though a more viable longer term alternative is to rely on a single procurement agency for the entire country. PSI is currently seeking funding to act as the national bednet procurement agency. The MOH has also expressed interest in facilitating the supply of bednets.

Sustainability of supplies. Sustaining bednet and insecticide supply will require both a market and procurement/distribution network. The market, or demand, is currently being developed by project activities, and is expected to continue as long as bednets are seen as important and valuable. Creating a procurement and distribution network is more complicated, and requires partnerships with other organizations or private institutions willing to procure and distribute large quantities of bednets. As mentioned above, PSI is planning on playing the role of national procurement and distribution agency for bednets. In addition, the private sector is becoming increasingly active in bednet importation, and will continue to do so as long as it is profitable.

Sustaining the supply of SP will continue via the MOH, who will continue the IPT intervention as long as it is demonstrated to be effective and cost efficient.

Monitoring supplies. The quality of bednet and insecticide supplies is monitored by the manufacturer, customs, importing agency, and along the supply chain to the consumer. If there are problems with these commodities, they will be discovered and rectified quickly.

The quality of medicines follows national procedures for importation of medicines, including pre-shipment inspection, inspection upon entry into Mozambique, and quality assurance testing carried out at random at pharmaceutical warehouses.

Ensuring safety. The safety of the program is mostly related to potential poisoning from the bednet insecticides. To avoid poisoning from insecticides, a number of steps are taken to keep the material out of the reach of children. The danger of insecticides is reinforced at all social mobilization exercises and dipping demonstrations. All those trained as bednet vendors receive training on the dangers of insecticides. The other principal risk is to the environment, particularly to aquatic organisms. This problem can be avoided if nets are not washed in local streams, rivers, or lakes – especially in large numbers – and if spills of pesticides into water sources are prevented.

MATERNAL AND NEWBORN CARE

Maternal and newborn care objectives cover a wide spectrum of activities, from behavior change in the community to policy objectives. Many decision-makers are involved in maternal and newborn care, including women and their partners, community leaders,

religious leaders, and health workers. All these stakeholders are involved in improving practices and services for mothers and newborns.

MNC Objective 1: Improve appropriate birth practices among program women

The program objectives address three important birth practices, including the need for early prenatal care, a birth plan, and an early postpartum visit following home births. Early prenatal care (within first trimester) for women is an important means of improving birth outcomes and only an estimated 22% of women had their first visit that early. Only a quarter of mothers had an emergency transport plan in the baseline survey, which is expected to increase to 70% by the end of the program. Training CLCs and religious leaders will be especially important activities to achieve this objective.

Less than half of mothers delivering at home reported having an early (within 2 days) post-partum visit, and we expect this proportion to increase to 70%. Achieving this objective will require increasing awareness among program women who deliver at home about the benefits of preventing and treating postnatal complications in the mother and infant. Both HAI and DPS will work together to locate or develop and produce educational materials that will help mothers to recognize the need for an immediate check after delivery and to recognize potential problems that are in need of immediate care.

MNC Objective 2: Increase health facilities' implementation of syphilis testing in antenatal care

HAI has tremendous success to date in implementing syphilis screening and treatment in antenatal visits in health units in the two program provinces with access to laboratories. However, many midwives provide antenatal care in remote health posts without access to a laboratory, so pregnant women attending these health units do not receive this screening. New and relatively inexpensive rapid tests for syphilis provide an opportunity to expand syphilis testing to health facilities without laboratories. Three thousand rapid test kits have already been procured for comparison with locally used screening tests (RPR), and a standard confirmatory test (TPHA). After field testing, MCH nurses throughout both Manica and Sofala provinces will be trained in using the rapid tests, and implementation followed to identify factors important for successful implementation.

Informing and treating partners of women who test positive for syphilis is an important part of expanding syphilis screening. HAI will focus activities on partner screening and treatment, and will aim to increase to 50% treatment of partners.

MNC Objective 3: Assure the availability of services for prevention of mother-to-child transmission of HIV in antenatal care

The primary source of HIV infection in children is via mother to child transmission. HAI and the provincial health departments, with supplementary funding from UNICEF and WHO, will provide standard pMTCT activities in at least five antenatal clinics in each province. Services include access to VCT, supportive groups for mothers who test positive ("Positive Mothers" clubs), nevirapine therapy during delivery for positive

women, access to standard treatment for OIs when they occur, education regarding breastfeeding options and other important approaches to maintaining a healthy lifestyle, and access to home-based care for seriously ill women.

Five pMTCT centers in Sofala and Manica province have already been established, and the remaining centers will be initiated by December, 2003. Clinic nurses will be given standard initial and refresher training (see HIV/AIDS section). Women who are HIV positive will be provided bednets at a subsidized cost via post-test support groups to reduce malaria complications in pregnancy and stimulate attendance at these groups. HAI will assist the DPS in conducting careful evaluations of the successes and challenges of this new intervention, and in reporting on the experience to national MOH officials.

MNC Objective 4: Create, with the national MOH, revised prenatal care norms that include pMTCT, IPT, and syphilis screening

HAI aims to assure that relevant lessons learned in the provincial health departments are shared at national levels, both regarding the implementation of established activities and in the development of new activities. The experience with pMTCT, IPT, and syphilis screening will be carefully monitored and evaluated, with results reported to national MOH policymakers. In addition to individual meetings, the biannual *Jornadas de Saúde* medical conference in Maputo will be a likely opportunity for HAI and DPS counterparts to make formal presentations on the process and outcomes of these activities. Similar efforts in the past have led to national policymakers' refocusing efforts on expanding syphilis screening efforts.

The process and results of implementation of these activities will be incorporated into a new prenatal card and a manual to facilitate expansion to other provinces. Evidence and practical information regarding feasible and affordable alternatives for remote health facilities will help decision makers to incorporate these new elements of prenatal care into national policy.

Behavior Change Communication

For the maternal care objectives, key behavior change target populations at the household level are women of reproductive age and their partners. At the community level, target populations include community and religious leaders.

The key behaviors to be targeted for each group are:
Households: 1) seek antenatal care early in pregnancy; 2) develop a birth plan for all pregnancies; 3) purchase, use, and re-treat insecticide-treated bednets during pregnancy, and 4) where available, have HIV testing as a part of antenatal care.
Communities: 1) develop community plans that will assure transport to the nearest qualified health service for pregnant women with obstetric emergencies, and 2) organize and support re-treatment campaigns for bednets in each community.

These key messages will be incorporated into all program activities on maternal care-related themes. These currently include PAC presentations, radio spots, community

education by community leaders, and presentations by health staff. Every effort is made to assure consistent messages. Program efforts with community and religious leaders will focus on supporting the basic messages and assuring that the activities can feasibly be carried out. CLCs have been shown to be instrumental in community mobilization and we intend to focus our energies to seek their help in increasing the number of mothers with feasible emergency transport plans, by developing plans to make transport available at the level of each community. Partner treatment is also an important step in syphilis screening and treatment; CLCs will provide information and motivational messages to men in the community, as well as pregnant women, about the importance of screening and treating partners of women who test positive for syphilis.

HAI has undertaken numerous quantitative and qualitative studies investigating the beliefs, attitudes, practices and constraints related to maternal care of women, men, and community groups. Most recently a study of the role of the African Independent Churches has pointed out that new opinion-makers are emerging in post-war Mozambique, and the mushrooming leaders of Christian evangelical churches have become a major source of advice and health consultation for women, particularly in the urban and peri-urban areas (Pfeiffer, 2002). During the first year of the program HAI staff will work with the provincial health education chiefs to assess approaches to involving the evangelical church leaders in the program, including disseminating program messages when appropriate. In the past, individual church leaders who are members of CLCs have taken on this task; we now aim to regularize this approach, concentrating initially on the urban and peri-urban areas. From that effort will emerge a specific plan for including church leaders in program efforts, particularly maternal care activities. We expect that activities that address HIV/AIDS, especially mother-to-child transmission, will be particularly relevant for inclusion in this effort.

In February 2003 a consultant from PATH conducted an assessment of needs for a BCC approach to promoting early antenatal care visits in the program area. A number of recommendations will be incorporated into the overall plan to implement the syphilis rapid test in remote areas, including a focus on early prenatal care attendance to ensure effective treatment is given. Annex 3 contains the summary of that report.

HAI works in close collaboration with DPS to arrange and/or facilitate training activities of health staff. There will be a wide spectrum of training activities supported, including training of CLCs, PAC groups, and health workers. The supervisory system will help health workers integrate and apply new information that will enhance their diagnosis, treatment, and management capabilities and guide them in problem solving approaches. Supervisory help will be made available to them more frequently in the beginning and then will be curtailed gradually to strengthen their self-confidence.

Quality Assurance

QA is a continuous concern in the health system even under stable conditions. Currently, HAI is incorporating several activities into routine prenatal care without precedent in Mozambique. QA is thus a special concern to assure that these activities are carried out

at acceptable standards to ensure that clients' needs are met and that a viable system is developed. Involvement of key stakeholders will be important to maintain quality over time.

Quality is defined differently for each activity. For example, the pMTCT activities span a range of possible approaches, from simple advice and education in some centers, to VCT and nevirapine administration in others, to the administration of ARV treatment to positive mothers, their partners and potentially their children in the pMTCT+ sites. The HIV-related activities in particular thus require constant attention to the assurance of quality at whatever level the intervention is offered. National standards regarding training and supervision are available for some elements, such as the testing and counseling aspects. For others, HAI and the responsible DPS staff are developing detailed procedures and standards against which to assess the quality of future activities.

Another major QA concern for the project is in the implementation of IPT in selected antenatal care sites. IPT implies injecting large quantities of new drugs into a potentially unstable epidemiologic situation, where resistance to antimalarial drugs is progressing at an unstable rate. HAI will not only carefully assess and document the rollout of IPT in the program area, but will also assist the DPS to continue to monitor the program area for changes in patterns of drug resistance. Similarly, the introduction of the new rapid test for syphilis requires both careful documentation of the practical aspects of its use but also an assessment of the public health benefits, costs, and trade-offs of the new test. This information will be used to make recommendations to the MOH regarding the possible adoption of the test for other provinces nationwide.

Availability of Drugs, Vaccines, Micronutrients, Equipment, etc.

Essential commodities. In addition to the materials normally used by the antenatal clinics, new items needed are the syphilis rapid tests and associated equipment (capillary tubes, lancets). For pMTCT activities please see the HIV section.

Reliability of supply Collaboration with PATH, Seattle, and funding from the Gates Foundation has allowed us to locate and procure initial amounts of the syphilis rapid test. Assuming early reviews of the test performance are positive, we will work with the DPS to develop a system for importation of the tests at minimum cost from the manufacturer in Korea.

Supply constraints. Currently the only barriers to supply of the rapid test are delays due to the necessity for inspection and certification as a medical import. Natural catastrophe or political unrest could create problems in its supply to the centers, but these are considered either very unlikely or of short term duration. The stability and small size of the rapid test make it very easy to transport even under difficult circumstances.

Sustaining the supply Reliable data established/strengthened by HAI will help decision makers to determine the role of the rapid test in national policy. Because the test is only about 10 cents (per test) more expensive than the currently used RPR, it is not unlikely

that the MOH will be able to take over supply of the test once its usefulness is demonstrated.

Quality assurance The government of Mozambique requires inspection of medical devices or tests (as well as medications) on import to assure standard quality. This process must be followed with the rapid test even when HAI is the supplier. Carefully done studies comparing the rapid test with "gold standard" tests will further determine if the test has a high enough sensitivity and specificity to be a useful screening tool under Mozambique field conditions.

Training. Health staff at the intervention health units will be trained by HAI and DPS in correct use of the rapid test, analysis of results, and procedures for counseling women and calling the partners of women who test positive for screening. They will also trained to answer common questions asked by syphilis positive mothers and their partners, and limited counseling skills.

4. WORKPLAN

The goals of the CS extension program are to bring about sustainable reductions in infant, perinatal and maternal mortality and morbidity in two provinces and to facilitate the expansion of selected successful strategies more widely within Mozambique. The workplan for each objective, along with indicators, targets, and means of verification, is seen below. The following abbreviations are used to designate the person responsible for assuring that the activity is carried out:

CD -- Country Director (HAI)
CS Mgr – CS Manager (HAI)
ManCoord – Manica Provincial Coordinator (HAI)
HIV/AIDS – HIV/AIDS Program Manager (HAI)
Mal – Malaria Program Manager (HAI)
RH – Reproductive Health Program Manager (HAI)
HE -- Health Education Assistant (HAI)
PAC-Cultural Activist Program
MOH -- Ministry of Health
DPS -- Provincial Health Department
DDS -- District Health Department
SMI -- Chief of provincial maternal-child care program
W + G – Positive Women's Group

STI/HIV/AIDS (40%)
(Families/communities)

AIDS Objective #1: Increase motivation and skills for women and adolescent girls to protect themselves and their infants from HIV infection		
Indicators (includes targets and how measured): a) 70% of mothers in the program area will know that mother-to-child transmission of HIV can be reduced or prevented (survey) b) 70% of mothers with access to voluntary counseling and testing (VCT) will be tested for HIV during their last pregnancy (survey and DPS records)		
Major Activities:	When?	By whom?
Social Mobilization for increased uptake of VCT and pMTCT services	LOP	HAI,DPS
ð Incorporate Positive Women's group members in the design and field testing of radio messages	LOP	RH, SMI,W + G
ð Support refresher training for health workers involved in the pMTCT and VCT programs	LOP	HIV/AIDS, RH, DPS, MOH
ð Design and carry out monthly "girl days" at youth VCT sites	LOP	HIV/AIDS, DPS, DDS, youth PLWHAs
ð Ongoing PAC presentations with HIV themes	LOP	PAC

Support expansion of pMTCT to a total of 12 sites and VCT to a total of 8	Q3-4	HAI, DPS, MOH
ð Training of health workers in VCT and pMTCT	Q3-4	HIV/AIDS, RH, DPS, MOH
ð Rehabilitation and equipping of 7 additional pMTCT sites and 5 youth targeted VCT sites	Q3-4	RH, HIV/AIDS

AIDS Objective #2: Decrease stigma associated with HIV/AIDS in the program area		
Indicator/target/:how measured: 60% of mothers will acknowledge that they know someone who has HIV/AIDS (survey)		
Major activities:	When?	By whom?
Social Mobilization to decrease stigma associated with HIV/AIDS	LOP	HAI/DPS
ð Radio campaign, including ads and debates that detail new HIV/AIDS services	LOP	HIV/AIDS, RH, DPS
ð Training and refresher training of health workers on new HIV/AIDS specific services	Q4-6	HIV/AIDS, RH, DPS
ð Outreach training, followup to religious leaders	Q4-6	HIV/AIDS, HE
Expansion of pMTCT & VCT services in the project area (see Objective #1)	Q3-4	HAI/DPS

(Organizations)

AIDS Objective #3: Improve capacity of health systems and communities to prevent further HIV/STI infection and care for those already infected		
Indicator/target (how measured): a) All district and provincial clinical health staff will be able to: - correctly implement updated STI protocols - explain the basic principles and practical implementation of universal precautions - assess and provide appropriate treatment for AIDS opportunistic infections (OIs) (all measured by training records) b) The 3 program-supported church/community groups will be able to provide community-based home care and support for persons with AIDS that meets standards for acceptable quality (program records, final evaluation for quality assurance) c) Day Hospital and STI clinic for adolescents will be established at Beira Hospital		
Major activities:	**When?**	**By whom**?
Increase health worker capacity to diagnose and manage STIs and other OIs at the district and provincial levels	TBA*, Q3-Q5	HAI/DPS
ð Training of health workers in the new STI protocols,	TBA*	HIV/AIDS, DPS
ð Training of health workers in OI management and universal precautions	Q3-Q5	RH, SMI, DDS
Provide capacity building support to three local religiously		

affiliated groups to provide quality HBC activities	LOP	HAI, DPS, DDS
ð Support training of HBC volunteers, increasing participation of health personnel in training	Q3	HIV/AIDS, DPS, DDS, Kubatsirana staff
ð Participate in ongoing monitoring of HBC volunteer activities	LOP	HIV/AIDS, DPS, DDS
Establish a clinic for adolescents with STIs at Beira Hospital		
	LOP	HAI, DPS
ð Identify space for clinic within Beira Hospital		
ð Ensure Beira Hospital's staffing support for clinic site	Q3	HIV/AIDS, RH
ð Support transition of management of clinic to Beira Hospital	Q4 Q5	HIV/AIDS, DPS HIV/AIDS, DPS
ð Provide on-going technical assistance as needed		
	LOP	HIV/AIDS
Expansion of comprehensive HIV/AIDS care services in the project area (including improved AIDS care, management of opportunistic infections, management of HBC)	LOP	HAI, MOH, with Global Fund, World Bank funding
ð Introduction of Day Hospital Services, with HAART treatment capacity, in 4 hospitals in Manica and Sofala	Q3-Q7	HIV/AIDS, HIV Clinical Advisor, DPS,MOH
ð Training of district health workers in OI management	Q3-Q4	HIV/AIDS, DPS

*expected in early 2004

(Institutions)

AIDS Objective #4: Establish VCT facilities and community support groups for youth with HIV/AIDS in 5 districts of the Beira Corridor and **AIDS Objective #5: Train and support 5 "Mini-PAC" youth theater groups in sites with youth VCT facilities**		
Indicator/target/:how measured: Presence of 5 youth-focused VCT facilities, community support groups, and mini-PAC groups along Beria Corridor (program and DPS records, site visits)		
Major activities:	**When?**	**By whom**?
Build comprehensive support services for HIV+ youth in the project area	LOP	HAI/DPS
ð Rehabilitation and provision of equipment for 5 youth-targeted VCT sites	Q3-Q5	HIV/AIDS, DPS, DDS
ð Development and ongoing support for 5 youth-targeted PLWHA support groups	LOP	HIV/AIDS, DPS, DDS
ð Development and circulation of a youth PLWHA referral guide for health workers	Q6-Q8	HIV/AIDS, DPS, DDS, PLWHA youth

Support the development of youth street theater groups based at each youth-targeted VCT site	LOP	HAI, PAC
ð Identify and train street theater troupes at each of the 5 sites	Q3-Q6	HIV/AIDS, PAC
ð Provide ongoing supervision and technical support	LOP	HIV/AIDS, PAC

MALARIA CONTROL (35%)
(Families/communities)

Malaria Objective # 1: Increase malaria understanding among program women		
Indicator/target (how measured): 80% of program women will know at least two ways to prevent malaria (survey)		
Major activities:	**When?**	**By whom**?
Design, field test and launch social mobilization campaign about malaria transmission, prevention, recognition and care-seeking	Q5-Q8	HAI and DPS/DDS staff
ð Design, field test campaign messages	Q5	Mal, DPS, DDS
ð Train CLCs, religious leaders in messages	Q5-Q7	Mal, DDS
ð Follow-up CLCs and religious leaders disseminating messages	Q6-Yr5	DDS
ð Air radio announcements on new messages	Q6-Yr5	Mal, DPS, Radio
ð Present street theater, incorporating new messages	Q6-Yr5	PAC
ð Evaluate effectiveness of campaign efforts, plan future activities	Yr5	Mal, DPS, CD
Malaria Objective #2: Increase use of insecticide-treated bednets in 8 target areas		
Indicator/target (how measured): a) 60% of mothers in the 8 target district areas will sleep under a treated bednet during their last pregnancy (survey) b) 60% of children under 5 in the 8 target district areas will sleep under a treated bednet the previous night (survey) c) 40% of homes with bednets will have had the nets retreated within the past 8 months (survey)		
Major activities:	**When?**	**By whom**?
Initiate pilot voucher program for subsidized bednets targeting pregnant women in 2 health facilities	Q3-Q8	HAI and DPS/DDS staff
ð Design pilot program, training strategy	Q3	Mal, DPS, CSMgr
ð Collect baseline information for comparison (net ownership, retreatment, health facilities data)	Q3	Mal, CSMgr
ð Train health workers, bednet vendors and CLCs in voucher system	Q4	Mal, DPS
ð Procure and distribute key materials	Q4	Mal, DPS
ð Design and launch social mobilization campaign	Q4	Mal, radio, PAC

ð Monitor net distribution	Q4-Q7	DPS, DDS, Mal
ð Assess program, write-up results	Q8	Mal, DPS, CSMgr
ð Disseminate pilot results to local and national stakeholders	Q8	DPS, CSMgr
Social mobilization for increased and improved utilization of bednets (including the basics on malaria prevention, the role of bednets, procurement details, and proper utilization, with a focus on retreatment)	Q2-Q8	HAI, DPS/DDS staff
ð Evaluate, adapt and field-test existing bednet messages	Q4	Mal, DPS
ð Incorporate new messages into existing mobilization strategy	Q4	Mal, DPS, rádio, PAC
ð Train commercial vendors, CLCs, religious leaders in new messages	Q6	Mal, HE, DPS, DDS
ð Follow-up CLCs and religious leaders disseminating messages	Q6-Q7	Mal, HE, DDS
ð Air radio announcements on new messages	Q6-Q8	Radio
ð Present street-level theater incorporating new messages	Q6-Q8	PAC
ð Promote and carry-out free "dip your net" days in bednet sales sites to increase insecticide coverage	Q2, Q8	Mal, DDS, CLCs
ð Assess success of strategy, plan revision and/or expansion	Q9	DPS, MOH, CD, Mal

Malaria Objective #3: increase appropriate treatment of malaria symptoms in children

Indicators/targets (how measured):

a) 80% of children under age 2 with fever in the past two weeks will be treated with appropriate anti-malarial drugs (survey)

b) 70% of mothers/caregivers of children under 2 will know at least two signs of childhood illness that indicate the need for immediate medical treatment (survey)

Major activities:	**When?**	**By whom**?
Support community and facility IMCI implementation via monitoring, providing technical assistance in future scale-up, and complementary sale of bednets	Q1-Q8	HAI, DPS/DDS staff
ð Participate in routine health worker monitoring and supervision in IMCI to ensure each IMCI-trained staff receives at least quarterly supervision	Q1-Q8	DPS, DDS, ManCoord
ð Refresher course for DDS staff on CB-IMCI messages	Q2	ManCoord, DPS
ð Train CLCs and religious leaders in established CB-IMCI messages	Q3	HE, DDS
ð Complementary sales or subsidized distribution of bednets	Q1-Q8	CLCs, commercial vendors
ð Technical assistance for future scale-up in IMCI	As needed	CD, ManCoord

Organizations :

Malaria Objective #4: Insecticide-treated bednets will be more widely available in both provinces		
Indicator/target (**how measured):** Insecticide-treated bednets will be available in at least 20 commercial outlets in the two provinces.(survey of commercial outlets or program records)		
Major activities:	**When?**	**By whom**?
Expand bednet sales sites to 20 spanning 8 districts, split equally between commercial and CLC vendors	Q1-Q8	HAI and DPS/DDS staff
ð Select 20 sales sites	Q1	Mal, DPS
ð Train district health personnel from sales sites in bednet program including retreatment strategies	Q1	Mal, DPS
ð Select and train bednet vendors from 20 sales sites in bednet program	Q1-3	Mal, DDS
ð Supervise bednet sales monthly	Q2-Q8	DDS, Mal
ð Re-supply key materials monthly to all 20 sites (bednets, insecticides)	Q2-Q8	DDS, Mal
ð Community survey and focus group discussions to assess program effectiveness	Q6	Mal, DPS
ð Analyze assessment results, produce report	Q7	Mal, DPS
ð Disseminate results to MOH policymakers, donors and PVOs/NGOs and recommend next steps	Q8	Mal, CS Mgr, CD, DPS

(Institutions)

Malaria Objective #5: The provincial health departments of Manica and Sofala provinces will have upgraded malaria control policies and procedures		
Indicator/target (**how measured):** a) The Manica and Sofala DPS will be conducting regular malaria drug resistance testing/surveillance (DPS and program records) b) The Manica and Sofala DPS will have integrated IPT into prenatal care protocols (DPS records, site visits) c) Health facility staff will be trained in implementation of new drug regimens for malaria.(training records)		
Major activities:	**When?**	**By whom**?
Support local health authorities in carrying out drug resistance studies (2 in total)	Q2-Q3, Yr3	MOH, DPS/DDS, HAI staff
ð Select sentinel surveillance sites	Q1	MOH, Mal, DPS
ð Train health personnel from sites in study methodology	Q2, Yr3	MOH, Mal, DPS
ð Provide key materials for study	Q2, Yr3	MOH, Mal, DPS
ð Supervise study	Q2-Q3, Yr3	Mal, DPS
ð Analyze results	Q3, Yr3	Mal, DPS, MOH
ð Produce study report, disseminate to local and national stakeholders	Q3, Yr3	Mal, MOH
ð Produce manual standardizing study procedures (to help		

MOH roll out studies to new sites and to adapt studies to new WHO recommendations for methodology and new drug regimens)	Yr3	Mal, MOH
Initiate pilot IPT program	Q1-8	HAI, MOH, DPS
ð Select 10 health facilities from 2 districts in Manica and Sofala provinces for implementation	Q1	Mal, DPS
ð Design pilot program, including data collection instruments	Q1-Q2	Mal, MOH
ð Seek approval for pilot initiative		
ð Procure necessary materials (SP, bednets, etc)	Q2	Mal, CSMngr
ð Train health personnel, CLCs in pilot initiative	Q3	Mal, DPS
ð Social mobilization on basics of IPT	Q3	Mal, DPS
ð Supervise field implementation	Q3-Q6	Radio, PAC, CLCs
ð Collect intervention data on ongoing basis	Q3-Q7	Mal, DPS
ð Assess 1-year IPT pilot intervention	Q3-Q7	Mal, DPS
ð Produce and disseminate report for key stakeholders	Q7 Q8	Mal, MOH Mal, MOH
Training and support of health facility staff on implementation of new drug regimens for malaria	Q5-6	Mal, ManCoord, DPS, DDS, MOH

MATERNAL AND NEWBORN CARE (25%)
(Families/communities)

MNC Objective #1: Improve appropriate birth practices among program women		
Indicator/target (how measured): a) 70% of pregnant women will have emergency transport plans (survey) b) 50% of women in program area will have an early prenatal care visit during their last pregnancy (maternity records, survey) c) 70% of women who deliver at home will have an early (within 2 days) post-partum visit (maternity records, survey)		
Major activities:	**When?**	**By whom**?
*Develop and produce educational materials for early prenatal care, early postpartum visit, and birth plans	Q4-Q5	CSMgr, RH, SMI
* Develop a quarterly report system for data on postpartum checks after home deliveries	Q4-Q6	CSMgr, RH, SMI
* Develop strategies and mechanisms for working with the African Independent Church leaders in Manica and Sofala to incorporate key MNC messages into their work with women	Q4-Q6	CSMgr, HE, DPS
*Training, refresher courses, and followup for CLCs and religious leaders on above topics, plus transport plans	Q4-Q6	CSMgr, HE, DPS

(Organizations)

MNC Objective # 2: Increase health facilities' implementation of syphilis testing and treatment in antenatal care		
Indicator/target (how measured): a) 50% of partners of antenatal women testing positive for syphilis will be tested and treated if necessary (DPS antenatal clinic information system) b) 80% of women in antenatal care at facilities without laboratory access will be tested by the rapid strip test for syphilis (DPS antenatal clinic information system)		
Major activities:	**When?**	**By whom**?
Survey of Health Units providing prenatal care but without laboratory facilities.	Q1, 2	RH, SMI
Set up registers, data system to collect information about rapid testing in prenatal visits, partner notification, etc.	Q1,2	DPS, SMI, RH
Train teams for the introduction of rapid test in target health units.	Q3-4	RH, SMI
Purchase initial tests, develop acquisition procedures and logistics for tests; monitor penicillin stocks.	Q2-8	CS Mgr, HAI Grants Mgr
Begin implementation of rapid tests, regular supervision	Q4-8	RH, CSMgr, SMI
Summarize and disseminate report of rapid test experience	Yr 3	CS Mgr, RH, SMI, CD

MNC Objective #3: Assure the availability of services for prevention of mother-to-child transmission of HIV in antenatal care		
Indicator/target (how measured): At least 5 maternal care clinics in each province will have pMTCT services (DPS and program records, site visits)		
Major activities:	**When?**	**By whom**?
12 pMTCT centers functioning in Manica and Sofala	By Q6	RH, SMI
Training of clinicians (antenatal, maternity and pediatric) in pMTCT	Q4,Q5, Q6	Same as above plus HIV/AIDS, HAI HIV Clinical Advisor
Establish and ongoing support of Positive Mothers groups at each pMTCT site	Q5 to EOP	HIV/AIDS, HIV assistant, DPS HIV chief
Provision and supply of bed nets for pregnant mothers living with HIV+.	LOP	HAI malaria assistant, with HIV advisor

(Institutions)

MNC Objective #4: Create, with the national MOH, unified prenatal care norms that include pMTCT, IPT, and syphilis screening		
Indicator/target (how measured): a) One MOH revised manual for prenatal care (MOH records) b) One revised prenatal card accepted for national use (MOH records)		
Major activities:	**When?**	**By whom**?
Initiate periodic meetings with MOH program heads in Maputo to develop policies, norms, revised card, and manual	Q4-Q8	CD, RH, SMI, CSMgr
Develop and test prenatal card in Sofala and Manica	Q6-Q12 Yr2	SMI, RH, CSMgr, CD
Disseminate nationally published version of manual and card (including presentation at national meeting)	Q12	RH, SMI, CSMgr, CD

INSTITUTIONAL/HUMAN RESOURCES STRENGTHING

HR Objective # 1: A plan for wide dissemination of HAI's CS lessons learned will be developed and implemented.		
Indicator/target (how measured): evidence of dissemination plan and implementation. (HAI records, dissemination documents)		
Major activities:	**When?**	**By whom**?
*ISA workshop at HQ	Q4	HQ administrator to organize; consultant to facilitate
*Develop dissemination plan (part of workshop)	Q4	HQ Staff - all
*Conduct implementation activities	Per plan	HQ Staff, per plan

HR Objective #2: At least one additional HAI headquarters technical staff member will be competent in managing and evaluating a CS program.		
Indicator/target (how measured): information regarding the additional HAI HQ technical staff member (HAI records)		
Major activities:	**When?**	**By whom**?
*Identify additional HQ staff candidate	Q2	ED, DD*
*Identify funding sources	Q2	"
*Orient as to CS activities and program	Q2-3	"
*Involve in preparation of DIP	Q2-3	DD
*Introduce to CORE, other CS groups and activities	Q3-4	DD
*New staff to conduct field visits	Q2 & Y2-5	New staff *ED=Exec, Director DD= Dep..Director

HR Objective #3: At least 10 Mozambican HAI or counterpart staff will be skilled in participatory training methods		
Indicator/target (how measured): evidence of successfully conducted 5-day participatory TOT for HAI field and counterpart staff (training records).		
Major activities:	**When?**	**By whom**?
*Plan/organize TOT, find appropriate trainer	Q3-Q4	HIV/AIDS Consultant,
*Conduct TOT workshop for HAI and counterpart staff	Q4	HIV/AIDS
HR Objective # 4: At least 5 Mozambican HAI or counterpart staff will be able to design, conduct and report on an operations research project related to their area of expertise.		
Indicator/target (how measured): 5 presentations at bi-annual Jornadas de Saude by Mozambican first authors and/or completed reports of operations research projects (Jornadas program, power-point presentations, completed reports)		
Major activities:	**When?**	**By whom**?
*Conduct training in operations research for national DPS staff	Done	CRDS and other Moz MOH training staff, HAI HQ malaria coordinator
*Assist trained staff to develop and conduct OR projects	Q1->Q4	As above
*Second training to support data analysis and write-ups/presentations of projects	Q5-6	CRDS & other Moz staff, HAI malaria coordinator

Annex 1: Response to Application Debriefing

A. Responses to weaknesses noted in AID review comments:

1. A detailed budget with PVO match is included in the DIP.

2. Information about the poster and brochure distribution strategies will be included in the intervention-specific technical sections

3. The MOH policies regarding STI management is currently the subject of a CDC study. When that study is completed, HAI will work with DPS to implement its recommendations. Recognition and referral of patients with TB is part of the planned health worker training on opportunistic infections (OIs) which will also be the subject of revised national guidelines and health worker training within the coming year. The TB treatment sites are a major point for referrals to VCT as well, and efforts are under way to integrate the programs more closely.

4. Detection and management of anemia is currently a routine aspect of antenatal care. Iron tablets are part of the "kit" of medicines provided by the MOH to antenatal clinics. Little is known about other micronutrient deficiencies in the program area.

5. The program works with the provincial health directorates to coordinate health staff training. Currently the general consensus is that the amount of time spent in training courses is at a maximum in terms of allowing routine work to continue. New staff do undergo an abbreviated training update at the time of placement, but when frequent staff changes occur it is difficult to maintain current skills for all staff. One approach that is taken is maintaining manuals with standards of care in all health units, and also posting simplified, laminated cards with the care essentials onto the walls of all health units. At least one and usually two followup supervisory visits focused on the topic of the training are a routine aspect of all training that is conducted, and is found to be an essential element in assuring that the new knowledge is put to use.

6. Information regarding commodity security is included in the DIP under each relevant technical section.

7. The program's strategy for sustainability of community leaders councils (CLCs) is that the responsibility for initiation, supervision, and followup of CLC activities rests on the staff of the health unit to which the CLC relates. Health unit staff undergo training in the topics in which the CLCs are to be trained, take part in their training, and report back to the district health office on CLC activities.

8. The sustainability table and devolution plan represent an effort to quantify the likelihood that the interventions supported by HAI will be sustained by the MOH or other partners.

B. Recommendations of the external technical reviewer

General comments

1. HAI has been funded to conduct intensive interventions in this CS program for STI/HIV/AIDS, malaria control, and maternal/neonatal care. We appreciate the reviewer's concern about other child health problems. However, as we are involved in addressing child health problems more generally through the HSDS project, funded through the USAID mission, we do not believe that adding additional child health interventions to the CS program is either feasible or necessary. Currently we are supporting community IMCI activities that address all of the 16 key health behaviors, and will continue to do so.

2. The program encourages participatory techniques in all training activities. Currently, for example, the training of MTCT staff makes use of PAC presentations that model effective provider-client interactions in an entertaining way. Training for counselors involves actual visits with the "positive mothers' clubs" members. However, to strengthen that component, we will also conduct an intensive training of trainers for key staff of both provinces in adult learning, hands-on techniques during the first program year.

3. Management training is an important aspect of most of our activities with counterparts. For example, every quarter HAI staff sit with DPS counterparts in quarterly planning meetings in which strategic objectives for the quarter, budgeting, logistical issues, etc. are discussed. Supportive supervision (termed "followup field visits") is included as a component of all training.

4. We recognize that there are important differences in the needs, resources and living conditions of the rural as compared to the urban areas in the program provinces. Program efforts in some areas, e.g., syphilis screening and treatment, initially focused on the more urban population with access to health facilities with laboratories. However, we have been able to meet our targets for the areas with easier access, and in the process prove that dramatic increases in coverage are possible. The expansion program will focus on meeting the needs of the more rural areas in that particular issue by initiating the use of a rapid strip test for syphilis that can be easily carried out by the midwives themselves in the course of providing antenatal care. The availability of this test will also assist us to more broadly promote the value early antenatal clinic attendance in the rural areas, having added benefits to the mothers. PAC presentations are particularly effective in the rural settings and will be used widely. Radio communication is a strategy that also will be emphasized in the extension program, as it is the most common means of mass communication for that setting.

5. The DPS has now taken on the youth-friendly health services that were developed by HAI. We will pass on the recommendations to the appropriate staff.

6. See the technical intervention areas for planned IEC/BCC activities.

Technical Interventions
STI/HIV/AIDS

1. CDC is currently investigating the appropriateness of and adherence to STI protocols, including syndromic case management, by health staff nationwide. Preliminary evidence indicates that the protocols will be revised and additional training will be needed. HAI will work with the provincial health offices to support that training when it occurs.

2. HAI's pMTCT efforts include a strong emphasis on a range of ways to prevent MTCT at all stages of pregnancy and after delivery. Breastfeeding is a particularly important approach, and HAI supports the MOH's stance (consistent with that of WHO) on education and support for feeding options (see technical section on HIV). Field staff have requested, and we expect to provide, easy-to-use brochures or posters covering the essential elements of breastfeeding for HIV+ mothers.

3. Journey of Hope…

4. We agree with the reviewer's interest in maintaining quality of VCT services. Perhaps the proposal did not adequately reflect this, but VCT services that HAI supports are considered models in this area. Great care is taken to assure quality of counseling, followup, support groups, referrals, community services, and all other essential aspects of the VCT and pMTCT programs. In all cases we follow national standards. The uptake of VCT by pregnant women is very high and is being tracked regularly, as is the proportion of partners counseled and screened. Testing and counseling (pre and post) are done by the same individual so post-test counseling is conducted at the same time as the test results are provided. See the technical section on HIV for information about how VCT is integrated into antenatal care services, including pMTCT and MTCT+ projects.

5. (7). At this point the pMTCT efforts are focused on urban areas, or areas nearer the Beira Corridor, where HIV rates are the highest and most women deliver in health facilities. The plan is to gradually expand to more rural areas, where the challenges will be to reach women who deliver at home. Because antenatal care is a major focus of the program, and antenatal care rates are reasonably high even in rural areas, we will use the the antenatal care visit as a platform for improving understanding of pMTCT issues. Four antenatal visits are officially the recommended number, although for most women three is the norm. The promotion of birth plans, which include emergency transport plans, is part of routine antenatal care (on the second visit). Currently nevirapine is not provided for home delivery use; it is possible that policy will be adjusted after more experience with the pMTCT program.

6. (8). a. Our CS funding does not allow specific targeting of men, although we will be addressing the education of men for several aspects of the program, such as promoting early antenatal care, use of bednets, and promoting partner screening for syphilis and HIV. The baseline KPC survey is conducted with women of childbearing age so we will not have quantitative data on knowledge and practices of me, but qualitative information is available from work with the churches and with community leaders' councils (CLCs).
b. We have dropped the indicator for mother's self-assessed HIV risk, as advised.

c. We have added an indicator to measure protective behavior of students, the percentage of students who express the intent to delay their first sexual activity because of the risk of HIV/AIDS. Field staff do not think that a question asking about condom use for a middle-school population would be acceptable.

Malaria

1. IMCI has now been officially launched in all districts. Health staff have either been trained in the full 11-day training or in an abbreviated workshop (IMCI-S). Work with CLCs will continue to address all the 16 key community IMCI behaviors.

2. The overlap of malaria in children with other causes of febrile illness, such as pneumonia is indeed a challenge for health workers. Even health workers who follow the IMCI protocol were found to overdiagnose malaria, and more or less routinely treat for it even in the presence of other symptoms. A recent effort in drug resistance testing in Beira had to be stopped because, following massive insecticide spraying throughout the city, too few cases of smear-positive malaria could be identified: of 80 cases of fever in children, only 2 were smear-positive. However, it is likely that in the absence of this kinds of special study, those children would have all or nearly all been treated for malaria.

Co-trimoxazole is used frequently in treatment of childhood illnesses, but is not the preferred treatment for malaria. The MOH is conducting ongoing evaluation of its IMCI strategy and its successes and challenges. HAI will continue to support those efforts, and to advocate for more rational drug-use policies and intensive evaluation of the any changes in policy that are initiated.

3. a. Since the population included in the KPC survey is women with a child under age two, most will not be pregnant. Thus we ask about bednet use during the last pregnancy, and not the previous night. We do ask about impregnated bednet use the previous night for children under two in the household.
b. We have added the suggested indicator measuring caregivers who know signs of serious illness in the child.
c. We have added the suggested indicator measuring use of a locally recommended antimalarial for children with fever, at the same time expressing concern that it is not clear just what that indicator measures (provider adherence? caregiver practices? overtreatment with antimalarials?).
d. We have already conducted a detailed study of provider adherence to IMCI protocols, including the suggested parameters.

Maternal and newborn care

1. a. Postpartum care procedures include a standard provision for a discussion of family planning. HAI has in the past worked with SEATS project to provide family planning commodities and currently supports family planning motivation at the community level as well.
b. Currently postpartum vitamin A supplementation is not included in national protocols, and HAI works only with the governmental health system. However, as has occurred many times in the past, the MOH is open to advocacy and pilot efforts to improve services. Helen Keller International works in the program area and will be approached to provide the MOH with a review of the current evidence supporting the use of postpartum vitamin A. Staff of either or both PVOs will discuss the possibility of a pilot effort with provincial and national MOH staff.

c. Education of the community at large about the danger signs of pregnancy is an ongoing activity for HAI. We developed, tested, and produced a pictoral wall poster illustrating the main danger signs, using a local artist, that is expect to be produced nationally during the next year. More written materials on the topic are still seen as a need, however, and other materials will be sought or produced.
d. The use of skilled delivery attendants is increasing gradually, as more women express satisfaction with the maternal care provided by health post and health center midwives. e. Currently there are no safe birth kits produced or marketed for home deliveries in the country. Although their development and distribution would be ideal, it is not within the scope of HAI's plans to do so at this time. Currently women are encouraged to have their delivery by a skilled attendant, whether that be a facility-based midwife or a trained traditional birth attendant.
f. Postabortion care is considered a special case of postpartum care, and uses a modification of the postpartum care protocols. It is included in basic and refresher health worker training.

2. For several years Columbia University has had a safe motherhood project in Sofala province, with the aim of upgrading all delivery facilities to the safe motherhood standard. Currently essential drug kits are available at the health post and health center levels that contain the basic drugs needed for essential care, and stocks are generally available (oxytocin, antibiotics, anti-convulsants). HAI staff will continue to monitor the availability of basic materiel at the health units. There is also a continual problem of the need for trained personnel to staff the rural health facilities, to assure access to essential obstetric care. To an extent that the problem is a national one, HAI will primarily serve to monitor and report on staffing issues and advocate for special measures to fill vacant posts.

3. Family planning/child spacing is an active MOH intervention in the program area, as discussed above in question #1. It is included as an activity in the HSDS project. We also support it as a routine element of postpartum care. However, family planning/child spacing is not one of the three priority interventions on which we have chosen to focus our child survival program. Condom promotion is actively promoted, and actively taught, in all maternal care clinics. It is also an important topic in the PAC presentations for both HIV prevention and family planning.

4. We agree with the need to continue to assure tetanus toxoid immunization. Tetanus toxoid immunization is a routine part of antenatal care in all clinics. Even rural areas with refrigeration difficulties have a cold chain that allows at least weekly immunizations. Two immunizations are offered to all prenatal care patients until they have documented evidence (usually on antenatal cards) of a total of 5 immunizations. Women normally retain their antenatal cards. If the cards are lost, the series begins again. According to health system records, coverage is high and clinical cases of maternal or neonatal tetanus extremely rare.

5. HAI adheres to MOH policies in the decisions regarding where to allocate scarce training resources. Currently the MOH emphasizes the training of health unit staff, ranging from 1 to 3 years of training for elementary and basic midwives and nurses, rather than on the training of traditional birth attendants. Although we agree that refresher training of TBAs would be desirable, we are not currently supported to provide it. Messages about early antenatal care will

be disseminated through radio messages, community leaders councils, PAC presentations, and health worker teaching.

6. See question #5. All rural health units have emergency transport plans for their obstetric (and other emergency) patients.

7. Although illegal in Mozambique, health workers do report that women suffering from post-abortion complications are relatively common in the health units. As noted above, post-abortion care protocols exist and are adapted from the postpartum care standards.

8. HAI agrees with the importance of providing women-centered services. We have conducted studies in the past related to culturally-determined beliefs that affect maternal and child care (e.g., care-seeking for febrile children, 1999 and cultural barriers to early prenatal care utilization, 2001), and try to adapt the program's messages to that cultural reality. One approach taken during health worker training updates is to encourage them to assess the effects of traditional beliefs or practices and actively discourage only those that are harmful. The onslaught of HIV has required added measures to recognize and respond to the many pressures on women that produce both susceptibility to HIV infection and difficulty in dealing with its implications.

Cross-cutting issues
Monitoring and evaluation

1. HAI works closely with staff from the provincial health offices who have access to full data related to the functioning of health units. Thus, for health system data we do not need to sample, but rather have access to the entire range of information that is collected. Coverage is regularly estimated by comparing health systems data with expected utilization given population estimates for each area. Some elements of health worker performance can be inferred from program data, but other aspects of it cannot be. Currently, the MOH's emphasis is on ensuring quality care by assessing adherence to IMCI protocols, and we support them in that effort. LQAS methods may be useful for that purpose.

2. HAI works closely with MOH staff in all aspects of its work. Program data are, for the most part, collected monthly by the DPS in each province, and reviewed quarterly (or more often if needed) with HAI staff.

Annex 2: Response to Final Evaluation Recommendations

The following is a list of each recommendation for HAI from the Final Evaluation, followed by the program's response to that recommendation (in italics).

1. Programmatic Recommendations

Maternal and Newborn Care

1. Introduce the rapid test in peripheral health facilities.

In progress. Three thousand rapid test kits have been delivered and key personnel in each province have been identified. A training program for health center staff will soon be initiated to introduce rapid tests in these centers. There are still some logistical problems with provisions of capillary tubes etc. HAI is working to overcome these problems and setup a smooth operating system for these tests.

2. Put emphasis on the early treatment of partners for syphilis.

In progress; there are some problems in availability of Penicillin at centers but the problem seems to be resolving at present.

3. Promote the use of condoms during pregnancy.

We do promote using condoms in pregnancy, and condoms are offered in prenatal visits. In HIV+ mothers this advice is integral part of the pMTCT protocol.

4. Carry out an investigation to understand the cultural acceptability of increase involvement of men in reproductive health issues and the cultural and practical implications of male presence in antenatal clinics and during labor, in order to develop inclusive reproductive health strategies.

In Mozambique, if invited by the midwife/nurse, men do sometimes attend but this is not a common practice. The issue can be discussed with the community leaders' councils to identify possible approaches to doing this.

5. Investigate the supply problems linked to syringes and needles and develop a strategy to overcome the problem.

The supply of syringes is very much dependent on the availability of external funds. Also within current Ministry of Health Structure, it sometimes takes a long time to rectify any shortages that occur. In this current situation women are encouraged to bring their own needles/syringes if possible. If stockouts occur, syringes and needles can be sterilized in the health centers until supplies arrive.

6. Carry out a study on risk factors for stillborn and neonatal deaths in the provinces of Manica and Sofala, including syphilis screening during labor, screening of mothers of stillborn babies, investigation of infections, nutrition status and other risk factors.

The Ministry of Health is doing a study about congenital syphilis in the maternity department at Beira Central Hospital and the data are being compiled by HAI. A small study was earlier attempted of women treated for syphilis who had cases of stillbirths, but it was not successful as paper trail was lost in most cases of stillbirths. Now the assessment strategy has been improved by HAI, and staff collect all the data on weekly basis. We have now collected data on 300 stillbirths in 2002. The report will be completed within the next 6-9 months.

MOH

7. Define policy on TBA and clarify policy with all health workers including staff working in peripheral health facilities.

This organization has been on the forefront in highlighting the important role played by TBAs in safer delivery practices. At this moment, however, the MOH does not recommend active recruitment or training of TBAs. The program currently involves TBAs in maternal health activities primarily through their membership in the CLCs.

b. STI/HIV/AIDS

for HAI + MOH:

Cantos Joviais

- Support the transformation of the Cantos into Adolescent Friendly Clinics

Presently HAI is working together with provincial health department counterparts and Unicef to develop clinical capacity at selected Cantos. In Sofala, a specific adolescent clinic space has been negotiated with the head of the Beira Central Hospital. In Manica province, the Manica district canto will be upgraded to include adolescent friendly clinical facilities. In addition, 5 of the existing cantos (Munhava, Dondo, Nhamatanda, FEPOM and Manica) will introduce youth targeted VCT for HIV/AIDS, with support from the REACH community grant.

- Maintain the Cantos within the health facilities but in locations that do not disturb the normal running of the health facility

Presently all but two cantos are located within health facilities compound. This general location has proven to be successful for improving communication and coordination between peer educators and health workers. However, the two sites outside of the health facilities compound will be part of the youth-targeted VCT program, so it will be interesting to see if the location inhibits or complements uptake of this service.

- Provide identification tags for the youth workers from the Cantos

The idea to have name tags for trained peer educators has already been discussed and is in the yearly plan.

- Identify sources of IEC materials and provide the youth workers with the information in order that they can become autonomous in requesting material.

The majority of material that arrives via the DPS is produced with support from UNICEF. As they are also supporting the Canto program, HAI will ask UNICEF to augment its support in this area. Also, the need for appropriate videos on adolescent health issues is critical, thus funding for this will also be pursued.

- Develop a fundraising strategy with the members of the Cantos that could include:
  - *Sponsorship (from the private sector, local NGOs, international NGOs, in exchange for community theatre presentations, educational talks)*
  - *Income-generating activities: these activities should be confined to activities directly linked to the aims of the club and not involve high investment costs (either in terms of capital or time). Possibilities: making HIV/AIDS emblems, making tee-shirts, putting on music and theatre shows*
  - *Affiliation with established youth groups (Rotary –Interact, Scouts, Church youth groups)*
  - *Staging once a year sponsored events – runs, cycle races, clean-up campaigns.*
  - Develop a membership sustainability plan that could include some of the following ideas :
    - A newssheet (hand-written or computer generated) that documents events, education programmes and the successes of the group.

    Excellent idea that will be shared with the provincial adolescent health head.
    - Regular (twice yearly) recruitment drives where they not only put on community plays, music events, but also actively recruit new members for the club.

Excellent ideas that will be shared with the provincial adolescent health head.

    - Institute a system where each member is responsible for training two new members

The provincial health department plays a large role in this training thus it may not be possible to transfer training responsibility to the peer educators.

- Suggest a policy of `bring your sister´ to the Cantos in order to address the gender imbalance

Excellent idea that will be shared with the provincial adolescent health head.

Mother to Child Transmission

- Consider the pros and cons of moving the Mother to Child Transmission programme from the central and main provincial hospitals to city maternity facilities to avoid over-crowding at the reference hospitals

The process of decentralization is already underway. One additional pMTCT maternity site in Beira and two additional sites in Chimoio have been opened. The initial pMTCT antenatal sites happened to be located at health centers without maternities, thus the influx of institutional births at the central and provincial hospital maternities.

- Circulate more information to health personnel about the Mother to Child Transmission Programme, in particular to the nurses who are directly or indirectly involved in the programme

Initial trainings have been carried out with all maternal-child health nurses, maternity nurses and pediatric nurses. In addition, a refresher course for these nurses needs to be carried out annually in order to cover any new or transferred nurses.

- Clarify the coverage of the programme (MOH)

To date, the scale up of pMTCT in Beira and Chimoio, has been quite rapid and well funded by various sources (Unicef, WHO, etc). The experiences of Beira and Chimoio have been shared at national forums and HAI is participating in the national pMTCT task force to detail the norms and protocols of this relatively new initiative. The MOH plans to rapidly scale up pMTCT services in all communities where VCT is presently available.

- Introduce in Beira group therapy sessions (similar to Manica experience) for mothers enrolled in the Mother to Child Transmission Programme

"Positive Mothers" groups have been started in Beira at two sites and an additional two have been started in Chimoio. The original group has now divided in to two group (antenatal and postnatal) and the postnatal group is going about the process of registering as a formal association.

VCT

- Expand the VCT using the NHS as base for the centres.

Under way

- Develop an in-service training strategy for counsellors, including retreats for rest and recuperation (GTZ)

Accomplished with support from the MOH and GTZ

- Contribute to and use more fully the national Web site. Distributing information from the Web site to the VCT (HAI)

The informational systems manager for HAI will be involved in monitoring and contributing to this new national web site.

- Institute a mechanism for providing the VCT staff and other health personnel with updated information from the Web site (HAI)

This will be included in the job description of the health information system manager.

Anti-AIDS School Clubs

- HAI should act as a facilitator for the clubs, linking the teachers into the networks of organisations working with HIV/AIDS.

It will be specifically useful for HAI to support the coordination between anti-AIDS clubs (both teachers and student members) and the youth targeted VCT sites. Other sites of referral should be carried out with the office of the Provincial AIDS Council.

c. Malaria

- Expand the bednet programme to include all traders in each location, including more isolated areas.

The expansion of the pilot bednet distribution program, which included a comparison of CLC and commercial vendors in two communities, is underway to include 20 communities divided between commercial and CLC vendors (see Section 3 on malaria for more details). At this time the advantages and disadvantages of each type of vendor are not fully understood, and will continue to be studied through 2004. At this time the program will be assessed, and policy recommendations made for further scale-up of bednet sales.

- Develop a strategy for the reduction of the price of the bednets for pregnant women and children, taking into consideration longer-term sustainability issues.

Given the high cost of bednets, it will be difficult to provide them at a subsidized yet sustainable rate. As bednets are incorporated more and more into national strategies targeting vulnerable groups such as pregnant women and children, then it is expected that prices will become more affordable and available.

- Immediately carry out a study of possible supply strategies [for bednets], in consultation with NGOs with experience in this field (commercialisation).

Because of supply difficulties, HAI has begun studying and testing alternative supply mechanisms, including local procurement, local production, and external procurement. Two NGOs, namely PSI and UNICEF, have been consulted on procurement questions, and it appears likely that bednets will be available nationally at wholesale prices in 2004.

- Increase the involvement of the DDS-DPS in the implementation of the bednet programme.

Attempts have been made to increase the involvement of DPS partners in bednet sales, with relative success from a policy standpoint. District and health facility staff already have

primary responsibility for storing bednets and managing local distribution, and are intimately involved in the bednet program.

2. Partnership Recommendations

HAI and MOH

- HAI should maintain and improve the co-ordination mechanisms instituted with the DPS.

The fundamental mechanism for coordination with the DPS will remain the Comite de Gestão*, or the 'Management Committee'. These meetings, held ever 2-3 months in each province, bring together HAI program staff with their counterparts and provincial authorities to review results and discuss plans and budgets. Efforts are underway to continually improve the quality of the presentations made at these meetings. In addition, HAI program staff primarily sit with their counterparts at the DPS, and are involved in internal DPS meetings, which ensures continued coordination.*

- HAI should initiate, in FY03, a joint planning process with the DPS including sharing of information on the financial resources available for each joint activity.

HAI provides the DPS with detailed budgetary information on an annual basis, which is updated quarterly to reflect new grants and changes in allocations. In addition, all proposals and budgets are provided to the DPS. These two mechanisms are sufficient to provide the DPS with the information they need to incorporate available resources into their annual planning process.

- DPS should institute a participatory planning process with HAI for activities to be undertaken in FY03-04 within the strategic planning process.

HAI has participated in the DPS planning process to the extent possible, and generally develops proposals based on priority DPS and MOH activities. In the future, HAI workplans and budgets will continue to be made available to incorporate in to the DPS planning process.

- DPS should review the job of descriptions of HAI personnel (to be provided) and share with relevant heads of section within the DPS.

Relevant job descriptions will be made available to the DPS to ensure adequate communication and coordination.

HAI-CLCs

- Evaluate the capacity of the CLCs in the light of the demands from programme components and critically examine which of the roles are most suited to the CLCs.

Though no formal evaluation of the capacity of CLCs has been undertaken, a number of efforts have been made to better understand how to best use CLCs to support program

activities without overtaxing these key resources. A good deal of knowledge has been garnered, and current planning includes analyzing the strengths and limitations of CLCs.

- Discuss the official recognition of the CLCs, taking into consideration the Governmental Decree 15/2000 that regulates the recognition of traditional and community based structures.

The questions of official recognition and non-monetary incentives have been extensively discussed with DPS counterparts, and current practice follows the policy decided on by the DPS.

3. Managerial Recommendations

- Organise a retreat for all staff to discuss the HAI programme strategy for the next five years.

The DIP workshop is planned.

- Prepare a new organisational chart that reflects the new programme.
- Share the new organisational chart and job descriptions with all partners, especially with the DPS

Attached; will be shared with DPS and other partners at DIP workshop and official meetings.

- Develop job descriptions with staff to reflect new roles and responsibilities.

. *New job descriptions are being written to correspond to the new organizational chart.*

- Re-examine the role of the Country Coordinator; consider more a strategic role and less administrative role.

The Country Coordinator now is supported by two provincial coordinators, who we expect will allow him to step back from the administrative roles.

- Seriously consider HAI representation at the national level in order to capitalise on advocacy positions and maintain current on policy debates.

Other activities, such as involvement in the Bill Clinton Foundation AIDS initiative, may result in HAI staff being hired at the Maputo level.

- Rationalise internal reporting mechanisms and institute mechanisms for reflection and analysis: Reduce number of activity reports (use a chart for indicating activities completed against plan); use quarterly reports to reflect on progress towards objectives (and not progress towards activities completed); use six monthly reports for team reflection and analysis; use annual reports to re-examine goals, objectives and plans.

Develop process indicators to measure how the approach used by HAI is effective in achieving goals.

Staff strongly supported this recommendation. New formats for program reporting are being developed and the first quarterly reports have been submitted.

- As soon as possible carry out an organisation-wide training on HIV/AIDS, including personnel policies.

Training in HIV/AIDS, including the HAI policy on antiretroviral treatment for staff members, has been planned and will be conducted annually.

- Write the story of HAI achievements in words, photographs or video. In particular an issues paper should be written about HAI approach to institutional strengthening.

A goal for HAI during the next 2 years is to have published at least 2 new papers that discuss HAI's experiences as an NGO working to affect national MOH policies.

4. Training strategy

- Consider consolidation of training materials in all components (Maternal and Newborn Care, STI/HIV/AIDS, Malaria) to enhance the curriculum of initial training courses in the Institute for Health Sciences in Beira and the Training Centre in Chimoio.

Part of the consolidation of training materials/tools will take place after a five-day participatory training methods course is carried out for HAI staff and partners. It is anticipated that experts in participatory methods can be identified in-country and the overall quality of training will be improved as well as reorganized into consolidated packages. Partners at the Institute for Health Sciences and the Training Centre, as well as DPS counterparts will be invited to participate in this innovative workshop.

- Investigate with the directors of the training institutions the possibility of training the teaching monitors in the teaching of the new material

After the workshop on participatory training methods, the possibility of supporting the training of teacher monitors can be discussed.

- Provide the libraries of the training institutes with copies of all training materials used over the past four years. Make a list of the materials available to the student health workers.

This is a very important output that should be accomplished as soon as possible and afterward always updated. It would be an especially appropriate job for a summer intern.

- Facilitate the final fieldwork of at least 10 student health workers per year.

Although this is an excellent idea, the clinical sites which HAI presently supports are managed entirely by the health department. Therefore we can recommend fieldwork placements at pMTCT and VCT sites, but the monitoring and supervision of these placements must be the responsibility of the health department.

- Continue to plan all in-service training with the in-service training department of the DPS.

A training workshop to introduce the new CS project will be carried out in each province with all HAI partners, per our initial plan.

Annex 3A: Baseline Survey

A baseline study of knowledge, attitudes, practices, and coverage regarding maternal care, malaria, and HIV/AIDS of mothers with children less than two years in central Mozambique

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Health Alliance International
Manica and Sofala Provinces
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1. Executive Summary

Health Alliance International (HAI) and MOH partners conducted a community survey of knowledge, attitudes, practices, and coverage with services in six districts of the two central provinces of Mozambique, Sofala and Manica, in August 2002. The survey served both as an end-of-project study for HAI's 1998-2002 Child Survival (CS) grant and as a baseline study for the 2002-2007 CS extension grant. Subjects were women (one per household) who had a child under age two. In Beira and Chimoio, the capital cities of the two provinces, 30 clusters of 7 mothers each were selected in each city proportional to *bairro* (neighborhood) populations. For the other 4 districts, a total of 30 clusters of 10 mothers were interviewed, with the number of clusters per district proportional to population. Households in cities were selected randomly by a two-stage sampling method, and rural households were within 30 minutes' walk or 5 km from government health units, thus representing both urban and rural populations that have relatively easy access to health services in the six districts that line the Beira Corridor.

Questions for the 62-item survey were administered by experienced interviewers trained for this survey over a two-day period, with oversight by supervisors trained for an additional day. Each interview lasted approximately 20-30 minutes, with fieldwork carried out over a 7 day period. Data were entered into a Microsoft Access database, and transferred to STATA version 5 for data analysis. Data entry was carried out by the experienced study supervisors, with accuracy verified via routine checks during entry. .

The study population totaled 718 women with a median age of 24. Only 43% were literate and 60% lived in homes with a beaten earth floor. Fully 86% were married and living with their husbands. Key results for the malaria questions include: over one-third of children had a fever in the past two weeks. 86% of them were taken to health facilities and of that group 65% were given chloroquine or Fansidar as malaria treatment. Only 57% of women know at least 2 danger signs of illness in children indicating the need for prompt care and only 49% stated that they were preventing malaria at home using measures directly related to control of mosquitoes. 20% of mothers slept under a bednet during their last pregnancy and only 11% of children slept under an insecticide-treated net during the night before the survey. Key maternal care results were that fully 77% of this population had at least three prenatal care visits, although only 22% of first visits were during the first trimester. Only 10% reported taking malaria prophylaxis during the last pregnancy and nearly half had at least one episode of fever. Fully 85% of this group delivered in a health facility, with a very small proportion of deliveries by traditional birth attendants. Only 27% had an emergency transport plan during their last pregnancy. HIV/AIDS-relevant findings were that although nearly all women knew about AIDS, only one-third could name three or more ways that HIV was transmitted. While 86% understood mother-to-child tranmission (MTCT), only 13% know that MTCT could be prevented. 46% knew someone who had died of AIDS. 6% had been tested for HIV.

The survey has provided valuable information to guide the course of child survival interventions during the coming program. Results were shared and discussed with all involved MOH staff and project partners.

2. Introduction

In 2002, Health Alliance International (HAI) was awarded a Child Survival (CS) extension grant from the USAID Bureau for Humanitarian Response to carry out maternal health, malaria control and prevention, and STI/HIV/AIDS education and prevention in Manica and Sofala Provinces in Mozambique. The baseline data for this project included a knowledge, attitudes, practices, and coverage (KAPC) baseline survey of populations in both provinces. In August, 2002 a KAPC survey was carried out to provide baseline data for the subsequent phase of the project through 2007.

Manica and Sofala Provinces together represent a population of approximately 2,700,000 persons living in an area of approximately 1,500,000 square kilometers. Of the provincial populations, 18% in Manica and 28% in Sofala live in the capital cities of Chimoio and Beira, and an estimated 35% in addition live in urban or periurban areas along the Beira corridor (a transportation route through the center of the two provinces that connects the port city of Beira with Zimbabwe and the interior). The districts along the corridor include both urban and remote rural areas. An estimated 85% of the population in the two provinces has access to government-sponsored health services, based on the proportion of pregnant women who deliver having had at least one prenatal care visit. The remaining 15% live in very remote rural areas in the far north and far south of the region.

HAI's partner in Mozambique is the Provincial Health Directorate in each province (Direcção Provincial de Saúde, or DPS). The CS project has added to the over 14 years of experience working in central Mozambique. The focus of HAI's CS project is the improvement of service delivery for the population with access to care, and increasing community awareness and demand for services in those areas. Community awareness is supported by health education activities with Community Leaders Councils (CLCs) and through a theatre group, PAC (Program of Cultural Activists) that presents dramatic performances with health education messages throughout the provinces. The maternal care intervention aims to improve the quality of care available to pregnant women, including STI services, through improved training and service delivery capacity in health units throughout the provinces. The project's HIV/AIDS prevention efforts include some health worker training, but have a primary focus on work with secondary school students in selected schools along the Beira Corridor, organizations of commercial sex workers, and traditional healers. Malaria control activities focus primarily on appropriate case management of children and pregnant women, on assessment of chloroquine resistance and treatment-seeking patterns and on testing the feasibility of insecticide-impregnated bednets in selected districts. These two assessments have provided useful information for the DPS and the national MOH in their reviews of malaria treatment and prevention protocols.

Baseline data for the project included health services information from the health units in all districts throughout both provinces. Since most of the project's community-based activities are focused in the districts along the Beira Corridor, however, the community baseline survey was designed to assess knowledge, attitudes, practices, and to some

extent, coverage, within the six districts that line the Corridor. The districts included the two capital cities, Chimoio and Beira, and four additional districts that include both rural and urban areas.

3. Methods

Interviews were conducted by six interviewer teams of two persons each, one man and one woman. One supervisor was responsible for three interviewer teams. The teams spent six days interviewing in the capital cities, followed by an additional six days in the other districts.

3.1 Questionnaire Development

The questionnaire was developed jointly by project and DPS staff, and questions were based on those used in previous HAI/DPS surveys, on the most recent national health survey, and on other health surveys conducted recently in Mozambique and neighboring Zimbabwe.

The questionnaire included 62 questions covering basic demographics, knowledge, attitudes, practices, and to a degree coverage, all related to the key project interventions. Additional questions were added to provide results on key CATCH indicators

3.2 Sample Size

The sample size for the survey was based on several considerations. Relatively recent (1997, 1998, 2001) surveys of child survival-related interventions were available for the rural areas. However, they had not been conducted in urban Beira, in spite of the fact that this city includes nearly 50% of the population of the province. The cities of Beira and Chimoio differ greatly in terms of size, geography, economy and population, so it was considered important to be able to analyze each city separately. As a result, it was decided to conduct an independent 30-cluster sample of each city. The areas outside the capital cities were also sampled via the 30-cluster method, increasing the interviews per cluster to 10 to increase the number of rural households that would be included in the sample without substantially changing the resources required.

3.3. Sample Selection

The study was carried out in 3 districts in Manica Province (Manica, Gondola, Cidade de Chimoio) and 3 in Sofala Province (Nhamatanda, Dondo, Cidade de Beira).

Provincial Capitals: In Beira and Chimoio, 30 clusters of 7 mothers each were selected in each city proportional to *bairro* (neighborhood) populations. *Bairro* populations were obtained from official city registries. Within *bairros*, the perceived center of each neighborhood was chosen with the help of the "*chefe de bairro*", a position similar to head councilman or councilwoman. After finding the center of the neighborhood, a pen was spun to choose a compass direction. The interviewers walked along that line until

the edge of the neighborhood (discussed with the *chefe de bairro*) was reached. A random number (through a draw) was then selected between one and the number of houses counted, and that number house was selected as the starting point for that neighborhood. After identification of the initial house, each subsequent house was selected by choosing the next closest doorway, until a total of 7 households with a child <2 years of age had been sampled.

Other Districts: For the other 4 districts, a total of 30 clusters of 10 mothers were interviewed. The number of clusters per district was selected proportional to population, according to 1997 government population figures. More precise population data for communities within the districts were not available. However, the number of annual clinic visits to the heavily utilized system of health centers and health posts was readily available. We selected the communities to sample proportional to the number of clinical visits to each health unit in the cluster, as the best available proxy measure for population.

For the 5 largest district cities (Dondo, Mafambisse, Nhamatanda, Gondola, Manica), more than one cluster was selected using the proportional sampling methods as outlined above. A second stage of proportional sampling based on available population figures was used to select neighborhoods for sampling within these district cities. Within each neighborhood, the survey supervisor chose the perceived geographic center, spun a pen to choose a directional line, counted the number of houses along that line to the edge of the neighborhood, and then selected a random number between 1 and the total number of houses. The interviews began at the house corresponding to that number. Each nearest doorway was selected for subsequent interviews.

For the other clusters in the four districts the survey teams used the health unit as the central starting point, spun a pen to choose the starting direction, and drove along the road from the health unit that most nearly approximated that direction. They randomly selected in advance a number between 1 and 5, and drove that number of kilometers along the road. From there a coin toss determined which direction to walk perpendicular to the road, until 10 houses with children <2 years were found. In cases where the health post was reached by an single access road (that is, had only one possible direction to be driven by road), the survey team spun a pen at the health post, and then walked 30 minutes in that direction from the health post, counting houses. A random number was then selected between one and the number of houses counted, and that house became the starting point for the interviews. House selection from there was carried out as indicated above.

Households having a child under age two were selected for the sample. If more than one mother with an under-2 child lived in the household, the team randomly selected only one to interview. If the selected mother had more than one child under age two, the team selected the younger child as the index child. Questions pertaining to the management of malaria in children were asked about any child under age five in the selected household.

3.4 Training of Supervisors and Interviewers

The selection process for interviewers was facilitated by recent experiences with community surveys in the project area, which allowed the core survey team to select interviewers with strong experience, knowledge of the project area, mastery of local dialects, and effective rapport with women of varying socio-economic backgrounds. Supervisors spent one day in training for the survey with the core team, followed by two additional days in which they assisted with the training of the interviewers. Content of the training included discussions of the purpose of the survey; roles of the supervisor and interviewers; rationale for and practice in the sample selection method; principles of correct interviewing; discussion of all the questionnaire items; interview demonstration, practice and feedback; special terms used in the survey; and field experience in conducting interviews with performance feedback.

3.5 Data Collection

Each questionnaire encounter lasted approximately 20-30 minutes, and fieldwork was carried out over a 7 day period in August 2002. No major constraints were reported, which was facilitated by the timing of the survey (before the onset of rainy season). Quality control was ensured via daily review of all questionnaires with interviewers upon return from fieldwork, as well as random monitoring of fieldwork by field supervisors and the study coordinator.

4. Data Analysis

Beginning on the first day of data analysis the questionnaires were entered into a Microsoft Access database, which was then transferred to STATA version 5 for data analysis. Data entry was carried out by the study supervisors, who have significant experience with data entry, and whose accuracy was controlled via checks in the database entry system as well as during the data cleaning process. Database management and data analysis were carried out by the study coordinator, who was assisted by HAI field staff in interpreting survey results.

5. Results

The results from the three clusters (Beira, Chimoio and rural districts) are aggregated except where there are cases of important differences. Two questionnaires were lost during the data collection process. See Annex for table of results.

5.1 Socio-economic and demographic results

A large proportion of women interviewed reported speaking Portuguese in addition to local dialects, though the majority (53.9%) preferred to be interviewed in Portuguese.

Table 1 shows the socio-demographic characteristics of women interviewed by area of residence. More than half of the mothers (55.9%) reported being literate. Mothers who are not able to read include women who never attended school or attended through a level insufficient to be considered literate. Close to half (50.9%) of women interviewed were under 25 years of age. Of the women interviewed, 17% reported having a running water source within their house or home compound, though this proportion was much higher (37.6%) in Beira city. Nearly two-thirds (65.3%) of women reported not having access to their own means of transport. In Beira city, the majority of mothers live in residences with cement or other types of covered floor (65.7%). Less than one-third of women interviewed (30.2%) reported having work

Table 1: Socio-economic and demographic characteristics of women interviewed by locale of residence

	Beira (N =210)		**Corridor (N=299)§**		**Chimoio (N= 299)§**		**Total (**N=718)	
	N	(%)	N	(%)	N	(%)	N	(%)
Literacy: Mothers who know to read	139	(66.2)	124	(41.5)	138	(66.0)	401	(55.85)
Water source: Running water within the house or property	79	(37.6)	25	(8.4)	18	(8.7)	122	(17)
Transport at home: Methods of transport available at home (Principally bicycles)	60	(28.6)	109	(36.5)	73	(34.9)	242	(33.7)
Type of floor in house:								
Cement or other finish	138	(65.7)	70	(23.4)	79	(37.8)	287	(40.0)
Beaten earth	72	(34.3)	226	(75.6)	129	(61.7)	427	(59.5)
Mothers who work outside the home: Mothers who work	59	(28.1)	105	(35.1)	53	(25.4)	217	(30.2)
Marital status: Women who live with their husbands	173	(82.4)	265	(88.6)	178	(85.2)	616	(85.8)

§One questionnaire was lost

resulting in income. Most women (85.8%) reported being married or living with a legal or common-law husband.

5.2 General understanding of child health

One indicator was included in the survey to evaluate the general knowledge of child health, specifically asking about fluid use for children with diarrhea. The majority of mothers interviewed responded that they give more liquids to children with diarrhea (60.3%), though only 49.1% of women from Beira city responded that they give more

liquids to children with diarrhea. On the other side, approximately a quarter (22%) of women reported giving less liquid to children with diarrhea.

5.3 Malaria

Measures taken by mothers in the home to prevent malaria are described in Table 2 and Figure 1. The most common measures reported include cleaning the yard (49.3%) and use of insecticides (23%). These methods are more frequently used along the corridor and in Chimoio than in Beira city. Only 12.9% of respondents in Beira and 8.4% of those along the corridor reported removing standing water as a method used to prevent malaria, compared to 25.4% in Chimoio city. Of those interviewed from Beira, 22.9% of mothers listed bed nets as a method of malaria prevention used at home. Nearly a quarter of those interviewed stated that they have a bed net at home, which varied greatly among the interview locales (41% in Beira, 23% in Chimoio and 15% in the rural districts). Less than half of mothers gave anwers that indicate that they understand that mosquitos cause malaria.

Over three-quarters of respondents (78%) noted that their youngest child did not sleep under a bed net the night before being interviewed. Only 10.7% of children in total slept under a bed net recently treated with insecticides. A total of 19.9% of women responded that they used a bed net during their most recent pregnancy, which was highest in Beira city (29.5%), followed by Chimoio (19.6%) and rural districts (13.7%).

Table 2: Measures used by mothers to prevent malaria at home

Method	Frequency (N=718)	%
Clean the yard	354	49.3
Use Baygon (insecticide)	165	23.0
Remove standing water	105	14.6
Bednets	101	14.1
Nothing	87	12.1

The most commonly cited sign indicating taking a child to hospital immediately was high fever (90.5%), though other commonly cited signs included lack of appetite, diarrhea, fatigue and vomiting (see Figure 2 below).

A total of 37.6% of mothers reported having a child under 5 years with a fever in the two weeks leading up to the survey (the 2002 survey preceded the onset of the rains). Most mothers (84.8%) reported seeking treatment for their child's fever at health facilities (Table 3). Chloroquine and Paracetamol/Panadol are the drugs most commonly provided for fever (63% and 59.3% respectively), and are presumably prescribed at health facilities. The majority of mothers (67.4%) reported carrying out treatment for 3 days, while 8.9% gave medicine for less than three days as recommended.

Figure 1: Methods used by mothers to prevent malaria at home

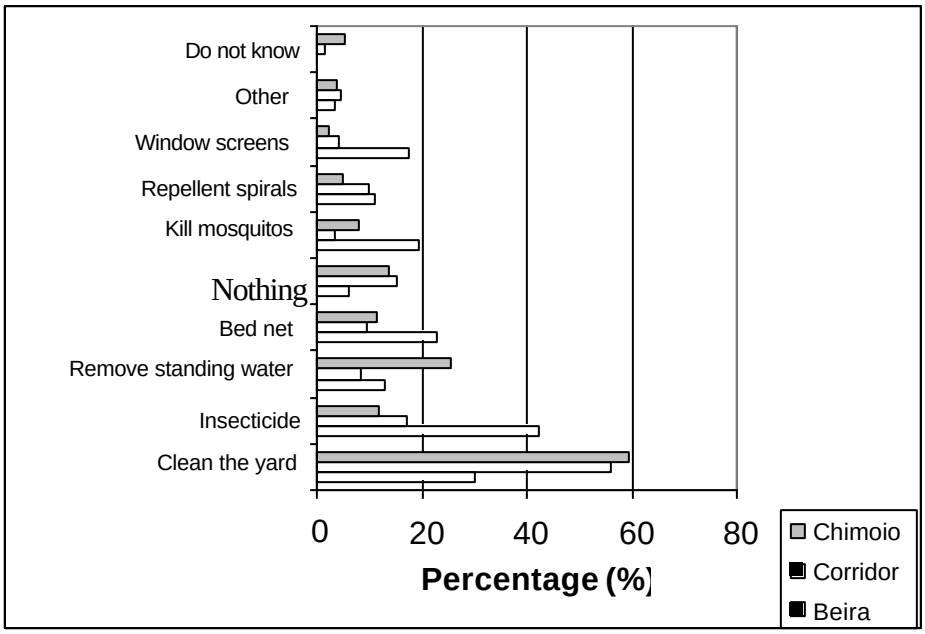


Figure 2: Signs indicating mothers to take their children to seek health services (N=718)

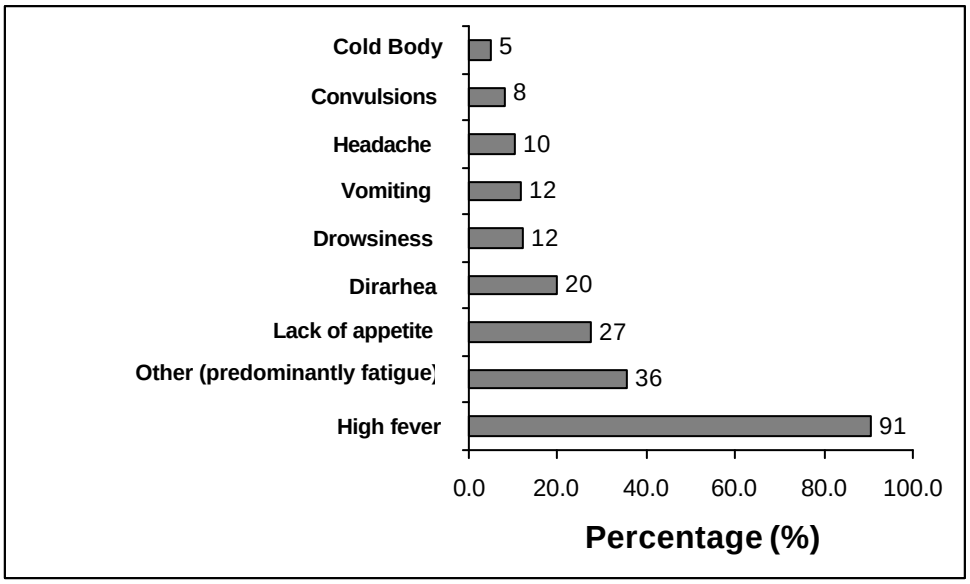


Table 3: Treatment by mothers for a feverish child

	Frequency (N=270)	(%)
First place of treatment		
Health facility	229	84.8
None	18	6.7
Prophet (religious leader)	9	3.3
At home	8	3.0
Private nurse	5	1.9
Traditional healer	1	0.4
Medicine given for febrile children		
Chloroquine	170	63.0
Aspirin/paracetamol	160	59.3
None	35	13.0
Other	30	11.1
Injection	8	3.0
Fansidar	4	1.5
Traditional medicine	4	1.5
Do not know	4	1.5
Duration (days) of anti malaria treatment		
1	5	2.8
2	11	6.1
3	122	67.4
4	22	12.2
5	8	4.4
6	1	0.6
7	12	6.6

5.4 Maternal care

Nearly all mothers (97.9%) reported receiving prenatal care during their last pregnancy, though few mothers (21.9%) went during the first three months of pregnancy (Table 4). Of mothers attending prenatal care, 89.8% stated that they had blood samples taken. Only 19.4% of respondents knew that the lab test was for syphilis. However, 70.7% of women reported that the results were explained to them by MCH staff.

47.5% of mothers reported having a fever during their last pregnancy, of whom 19.4% took an anti-malarial drug. 10.3% of women reported taking a malaria prophylaxis during the most recent pregnancy, of which 54.1% reported taking Chloroquine and 8.1% reported Fansidar, while 37.8% of respondents did not know what type of malaria prophylaxis they received.

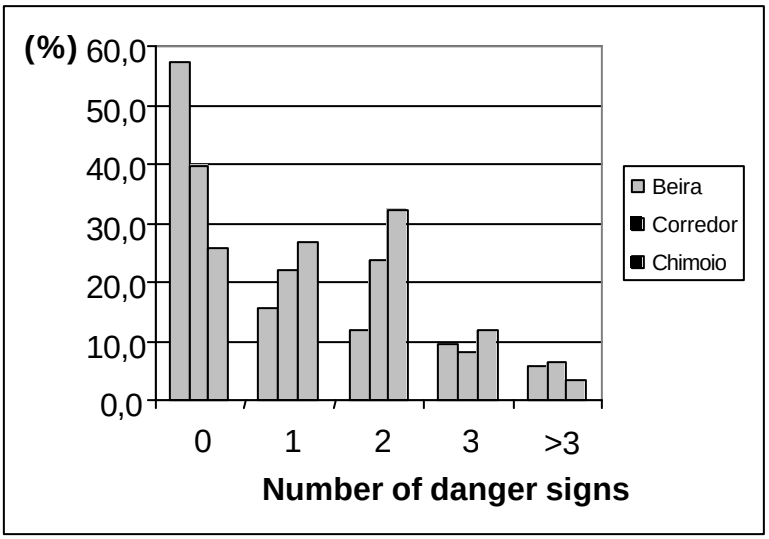
Fully 85% of women interviewed reported that they had gone to a health facility for the delivery of their last child. Of those who had non-institutional births, 70.3% were attended by friends, families or neighbors; 8.9% by untrained traditional birth attendants (TBAs); 5% by trained TBAs, and 7.9% had unassisted births.[1]

Table 4: Women who attended prenatal care by number of consults, stage of pregnancy and blood sample

	Frequency	%
Total number of women attending prenatal care	**703**	**97.9**
Number of prenatal consults		
1	46	6.5
2	58	8.3
3+	553	78.7
Do not know	42	6.0
Without data	4	0.6
Stage of pregnancy at first prenatal consult		
I trimester	154	21.9
II trimester	458	65.1
III trimester	72	10.2
Mothers who know what lab test was for		
Syphilis	125	19.4
Other/Do not know	366	56.7
Anemia	43	6.7
Plasmodium	21	3.3

Danger signs in pregnancy that a mother should know include hemorrhage, rupture of membranes 24 hours or more before birth, prolonged labor, cessation of fetal movement, severe headaches, high fever, seizures, cramps, and breech birth or other malpresentation. At least one danger sign was identified by 59.2% of mothers, and only 14.9% of mothers could name 3 or more danger signs. Knowledge of danger signs was lowest in Beira, where 57.1% of mothers could not list at least one danger sign in pregnancy.

Figure 3: Number of danger signs in pregnancy recognized by respondents



5.5 STI/HIV/AIDS

Most mothers (96.1%) had heard about HIV/AIDS. Of those who had heard about HIV/AIDS, 66.2% could name two or less means of preventing transmission of HIV.

The source of information about HIV/AIDS most often cited was radio (88.1%), followed by health workers at health facilities who provide HIV/AIDS education (57.6%). A total of 41.4% of respondents identified friends or family as sources of information on HIV/AIDS. 17% of respondents identified the television as a source of HIV/AIDS information, which was highest in Beira city (33.3%). At the community level, street theater was identified by 19.5% of respondents as a source of information, while community leaders were identified by 6.9% of respondents, church leaders by 2.4%, and traditional healers by 0.3% of respondents.

Of women interviewed, 32.9% were able to correctly identify 3 or more mechanisms for HIV transmission. A total of 6.8% of women could not identify even one mechanism for preventing transmission of HIV, and 29.3% could only identify one mechanism. Women interviewed identified four principal mechanisms for transmission of HIV, including maternal transmission to the newborn (83.4%), intercourse (83.1%), blood transfusion (76.8%) and needles/blades not sterilized (75.6%). Mothers had several misconceptions about modes of HIV transmission, believing that mosquito bites (21.5%), kisses or embraces (21.3%), and cough (18.5%) can transmit HIV. Though many women identified mother-to-child transmission of HIV, only 12.5% of women interviewed reported that this mechanism of transmission can be prevented, which ranged from 18.3% in Chimoio to 8.8% in Beira.

82.8% of mothers believe that a healthy person can be infected with HIV. Approximately one-third (30.2%) of women know someone with HIV/AIDS, and about half (46.4%)

know someone who has died from HIV/AIDS. Respondents from Chimoio were more likely to know someone with HIV/AIDS and someone who has died from HIV/AIDS (40.8% and 51.9% respectively), followed by respondents from the corridor (33% and 51%), and respondents from Beira city (15.7% and 34.3%).

The majority of women interviewed (66.6%) noted that women are at risk for contracting HIV, with the highest rates found in Chimoio (75.7%) and Beira (71.6%), followed by districts along the corridor (56.6%). When questioned about their own risk of contracting HIV, the largest number of women reported that their risk is moderate (28.8%). Smaller numbers of women believe their risk is high (23.1%), unknown (21.8%), minimal (19.8%) and none (5.3%).

Table 5: AIDS knowledge and attitude among sample mothers

	Frequency	**%**
Mothers who heard about AIDS	698	(96.1)
Number of ways to prevent AIDS known by mothers		
0	29	(4.2)
1	209	(29.9)
2	224	(32.1)
3	166	(23.8)
>3	70	(10)
Mothers who believe that a "healthy" person could be HIV infected	578	(82.8)
Mothers who used condoms with their husband/partner	69	(9.6)
Places where people can get condoms:		
Fixed street sellers	328	(45.7)
Hospitals	219	(30.5)
Street sellers	87	(12.1)
Do not know	49	(6.8)
Perceived ways of getting AIDS:		
Maternal transmission to newborn	582	(83.4)
Intercourse	580	(83.1)
Blood transfusion	536	(76.8)
Needles/blades not sterilized	528	(75.6)
Mosquito bites	150	(21.5)
Kisses	149	(21.3)
Coughing	129	(18.5)
Share clothes	108	(15.5)
If someone known by mothers get AIDS, they will be willing to:		
Visit him/her at home	457	(65.5)
Living in the same house	396	(56.7)
Share water from the same well	381	(54.6)
Shake her/his hands	341	(48.9)
Share meals with him/her	232	(33.2)

Condoms are most widely known as "jeitO" (76.6%) which is the social marketing name given by PSI. Most mothers know what a condom is (96.4% however, few of them have had experience in using them (15.2%). Fixed street sellers (45.7%), hospitals (30.5%), street sellers (12.1%) and drugstores (6.1%) are known places where people get condoms, according to mothers.

Mothers' attitudes towards people with AIDS were assessed in a series of questions related to their presumptive behavior towards a person ill with AIDS. If someone known by mothers had AIDS, 65.5% stated they would be willing to visit him/her, 56.7% stated they would live in the same house, and 54.6% would share water from the same well and 48.9% would shake his/her hand. Only 33.2% would share meals with a person with AIDS.

Table 6: Community measures known by mothers for preventing HIV infection

Measure	**Frequency**	**%**
Use of condoms	317	(37)
Fidelity	107	(14.9)
Avoid intercourse with sex workers	91	(12.7)
Decrease the number of partners	86	(12)
Nothing	70	(9.7)
Not share needles, blades	45	(6.3)
Abstinence	21	(2.9)

The respondents stated that people in their community are using condoms (44.2%) as a way to prevent HIV infection (Table 6) Other preventive measures noted were decreasing the number of sexual partners (12%), and avoiding intercourse with sex workers (12.7%). Only 9.7% of interviewees believe that nothing is being done.

6. Discussion

This baseline survey provided data to facilitate the setting of targets for key objectives for this five-year extension project and, more importantly, has provided useful information to assist with refining strategies for implementation of the interventions. The limitations of the survey include those of any quantitative household survey, such as response bias, recall error, sampling bias, including over sampling of certain areas and under sampling of those more difficult to reach.

The sample was selected to be representative not of the entire Manica and Sofala populations, but of the populations with reasonable access to government health units. As expected, coverage data showed higher coverage with maternal care services than

other surveys of the general population have shown. For example, prenatal care coverage of 98% is much higher than national prenatal coverage reported for 1997 (77.2%) and than data reported by MOH in Sofala province for 1998 (63.1%). The 85% of births that occurred in institutions is also much higher than 1997 figures for Sofala (31%) and Manica (50.1%).

These data provide useful information, however, as to the practices of women with relatively easy access to functioning health units. Since a substantial proportion of the project's efforts are directed towards improving health services,follow-up data at the end of the project will allow HAI and the MOH staff to assess the effectiveness of those health services strengthening activities. One of the project activities involves assuring quality data from the health units. Since a census of the population was recently conducted (providing denominators), it will be possible to make reasonable estimates of general population-level changes by combining those two data sources to supplement and complement the survey results.

The survey results have clear implications for the malaria initiative. Mothers with febrile children report going to the health units for malaria treatment, but the survey shows the need to focus more efforts on preventive measures (particularly bednets) and on early recognition of danger signs that indicate the need to go or return to a health facility. More detailed analysis of the survey results showed that economic and social factors may play a large part in the uptake of bednets: of those families having a dirt floor in the house, only 13% had a bednet, while in families with cement floors, fully 43% had a bednet. Similarly, among illiterate mothers, only 14% had a bednet while among literate mothers over one-third had nets. These figures indicate a need to carefully weigh the costs of bednets in assessing the most effective ways to assure widespread use of the nets.

Less than half of the women stated that they used some measure of preventing malaria that might indicate that they understand that mosquitos are the vector for malaria; however, that question was not asked directly so it is possible that the proportion is even lower. Helping communities to make the mosquito-malaria connection and take appropriate action will be a focus of the extension program.

The study points out high rates of prenatal care, as do MOH data. However, the stage of pregnancy at the first consultation, mostly in the second and third trimesters, is later than it should be if diagnosis and treatment for syphilis (which is responsible for stillbirths, abortions, and newborn syphilis) is to have maximum effect. A major emphasis of the extension program will be promoting earlier prenatal care-seeking. The frequent presence of fever during pregnancy indicates that malaria is another potentially serious health problem in pregnant women, suggesting the importance of implementation of intermittent presumptive treatment of malaria in pregnant women during antenatal care. The need to emphasize the quality of care being provided, including malaria management, formulation of birth plans including emergency transport plans, recognition of danger sighs in pregnancy indicating obstetric emergencies, and better education around syphilis screening and treatment are all confirmed by the results the study.

The most useful information resulting from the survey may be in the HIV/AIDS section. Although AIDS is very widely recognized by the population in the project area, women have the usual misconceptions about HIV transmission, including several that will continue to be addressed specifically by the project. A large majority knew that HIV could be transmitted from mother to infant, but only 13% knew that such transmission could be prevented or reduced. Although only 30% stated that they knew someone currently with AIDS, a surprising 46% of women overall knew someone who had died of AIDS, with the proportion reaching 60% in Chimoio city. Most were neighbors, but large proportions were friends or family (substantially increased from the 1998 survey). That the epidemic has reached this deeply into the lives of the project population is a fact that must be acknowledged in the HIV intervention strategies. Those with greater exposure to the problem (Chimoio residents) appear to have greater tolerance and support of persons with the disease. Although HIV testing is only now becoming widely available to the surveyed population, fully 73% said that they knew about the existence of a test for HIV, and 45% said that they thought that "everyone" should be tested. Only 6% of the women had been tested at the time of the survey, but it is likely that given the growing access to pMTCT services in the program area that this proportion will increase dramatically over the coming few years.

Several approaches to education and motivation related to HIV and AIDS can be gleaned from the survey results. Radio was found to be an extremely important medium for transmitting messages about HIV and AIDS, including the availability of HIV testing, as were health workers. Around one fifth of women had heard about AIDS via theater, and that proportion should increase during this project. Finally, women clearly acknowledge the importance of teaching their children, especially their adolescents, about AIDS. The project's work with youth may prove its most effective intervention in the long term.

7. Survey Costs

Below is a summary of costs associated with the survey. Interviewers were paid $12.50 per day including training and tabulation days, with an additional $5 for lunch costs when outside of their home city. Supervisors were paid $25 per day, including training and tabulation days as well. All salaries were paid in local currency (Meticais) with an exchange rate of 12,040 MT to the dollar. They received the same lunch money as interviewers. Accommodation costs were for the Manica team to come to Beira for the unified training session.

Category	**Cost (MT)**	**Cost (USD)**
Salaries	41,297,200	3,430
Per Diems	6,275,270	521
Snacks/Lunches	2,276,500	189
Accommodation	450,000	37
Didactic Material	1,152,000	96
Photocopies	7,014,993	582
TOTAL	**58,465,963**	**4,855**

	BASELINE RESULTS							
	Beira N=210		Corridor N=299		Chimoio N=209		TOTAL N=718	
Question#	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**
1. Interview language (N=total sample)								
Chimanica	0	0.0	37	12.4	10	4.8	**47**	**6.5**
Chitewe	0	0.0	52	17.4	51	24.4	**103**	**14.3**
Chisena	18	8.6	68	22.7	14	6.7	**100**	**13.9**
Chindau	29	13.8	31	10.4	9	4.3	**69**	**9.6**
Portuguese	163	77.6	102	34.1	122	58.4	**387**	**53.9**
Other	0	0.0	9	3.0	3	1.4	**12**	**1.7**
No data	0	0.0	0	0.0	0	0.0	**0**	**0.0**
2. Interviewee age (N=total sample)								
<15	0	0.0	1	0.3	0	0.0	**1**	**0.1**
15 - 19	51	24.3	67	22.4	41	19.6	**159**	**22.1**
20 - 24	64	30.5	72	24.1	70	33.5	**206**	**28.7**
25 - 29	49	23.3	78	26.1	40	19.1	**167**	**23.3**
30 - 34	25	11.9	36	12.0	26	12.4	**87**	**12.1**
35 - 39	14	6.7	32	10.7	24	11.5	**70**	**9.7**
40 - 44	2	1.0	11	3.7	7	3.3	**20**	**2.8**
45 - 49	1	0.5	1	0.3	0	0.0	**2**	**0.3**
>50	0	0.0	0	0.0	0	0.0	**0**	**0.0**
No data	4	1.9	1	0.3	1	0.5	**6**	**0.8**
3. Literacy (N=total sample)								
Mothers who do not read	67	31.9	172	57.3	71	34.0	**310**	**43.2**
Mothers who know to read	139	66.2	124	41.5	138	66.0	**401**	**55.9**
Without data	4	1.9	3	1.0	0	0.0	**7**	**1.0**
4. Water source (N=total sample)								
Running water at home	34	16.2	9	3.0	11	5.3	**54**	**7.5**
Running water in the yard	45	21.4	16	5.4	7	3.4	**68**	**9.5**
Water from well at the yard	16	7.6	43	14.4	63	30.1	**122**	**17.0**
Other	112	53.3	230	76.9	126	60.3	**468**	**65.2**
No data	3	1.4	1	0.3	2	1.0	**6**	**0.8**
5. Transport at home (N=total sample)								
Any transport	60	28.6	109	36.5	73	34.9	**242**	**33.7**
Bicycle	51	24.3	100	33.4	65	31.1	**216**	**30.1**
Motorcycle	6	2.9	2	0.7	6	2.9	**14**	**2.0**
Cart	0	0.0	7	2.3	0	0.0	**7**	**1.0**
Car	3	1.4	3	1.0	5	2.4	**11**	**1.5**

Nothing	90	42.9	78	26.1	60	28.7	**231**	**32.2**
6. Type of floor in house (N=total sample)								
Cement or other finish	138	65.7	70	23.4	79	37.8	**287**	**40.0**
Beaten earth	72	34.3	226	75.6	129	61.7	**427**	**59.5**
Other	0	0.0	3	1.0	1	1.5	**4**	**0.6**
7. Mothers who work outside the home (N=total sample)								
Mothers who work (including part time)	59	28.1	105	35.1	53	25.4	**217**	**30.2**
Mothers who do not work	151	71.9	188	62.9	156	74.6	**495**	**68.9**
wiithout data	0	0.0	6	2.0	0	0.0	**6**	**0.8**
8. Marital status (N=total sample)								
Mothers living with husbands	173	82.4	265	88.6	178	85.2	**616**	**85.8**
Mothers divorced	6	2.9	8	2.7	9	4.3	**23**	**3.2**
Mothers separated from husband	11	5.2	10	3.3	10	4.8	**31**	**4.3**
Widows	5	2.4	6	2.0	10	4.8	**21**	**2.9**
Never married	6	2.9	5	1.7	2	1.0	**13**	**1.8**
Without data	9	4.3	5	1.7	0	0.0	**14**	**2.0**
9,10. Partner status of unmarried mothers (N=not married for each site)								
With partner	9	24.3	9	26.5	11	35.4	**29**	**28.4**
Without any partner	16	43.2	16	47.1	18	58.1	**50**	**49.0**
11,12. Married mothers whose husbands have co-wives (N=married for each site)								
Mothers with other cowives (mostly one)	26	12.4	55	18.4	35	16.8	**116**	**16.2**
13. Behavior for child with diarrhea (N=total sample)								
Give more fluids	103	49.1	181	60.5	149	71.3	**433**	**60.3**
Give less fluids	61	29.1	65	21.7	32	15.3	**158**	**22.0**
Give the same quantity of fluids	16	7.6	21	7.0	19	9.1	**56**	**7.8**
Would not give fluids	20	9.5	28	9.4	4	1.9	**52**	**7.2**
Does not know	10	4.8	4	1.3	5	2.4	**19**	**2.7**
14. Danger signs that indicate mothers take child w/fever to a hospital (N=total sample, total % >100)								
high fever	195	92.9	274	91.6	181	86.6	**650**	**90.5**
headache	25	11.9	34	11.4	14	6.7	**73**	**10.2**
vomiting	22	10.5	37	12.4	25	12.0	**84**	**11.7**
diarrhea	29	13.8	59	19.7	55	26.3	**143**	**19.9**
coldness	13	6.2	15	5.0	7	3.4	**35**	**4.9**
seizures	16	7.6	21	7.0	21	10.1	**58**	**8.1**
not eating	61	28.1	77	25.8	59	28.2	**197**	**27.4**
sleeping/lethargia	27	12.9	37	12.4	23	11.0	**87**	**12.1**

other	60	28.6	107	35.8	89	42.6	**256**	**35.7**
15. Measures used by mothers to prevent malaria at home (N=total sample, total % > 100)								
Nothing	13	6.2	45	15.1	29	13.9	**87**	**12.1**
Windows screens	37	17.6	13	4.4	5	2.4	**55**	**7.7**
Killing mosquitos	41	19.5	10	3.3	17	8.1	**68**	**9.5**
Baygon	89	42.4	51	17.1	25	12.0	**165**	**23.0**
Remove standing water	27	12.9	25	8.4	53	25.4	**105**	**14.6**
Clean the yard	63	30.0	167	55.9	124	59.3	**354**	**49.3**
Repellent spirals	23	11.0	30	10.0	10	4.8	**63**	**8.8**
Bednets	48	22.9	29	9.7	24	11.5	**101**	**14.1**
Don't know	0	0.0	4	1.3	11	5.3	**15**	**2.1**
Other (burn leaves mostly)	7	3.3	14	4.7	8	3.8	**29**	**4.0**
16,17,18,19. Use of bed nets by children at home (N=total sample)								
Has bed net in home	87	41.4	46	15.4	49	23.4	**182**	**23.4**
Mothers who used bed net during pregnancy	62	29.5	40	13.4	41	19.6	**143**	**19.9**
Children under bednets	71	33.8	41	13.7	41	19.6	**153**	**21.3**
Children under bednets (insecticide treated)	45	21.4	20	6.7	12	5.7	**77**	**10.7**
No children under bednets	136	64.8	256	85.6	168	80.4	**560**	**78.0**
Unknown	3	1.4	2	0.7	0	0.0	**5**	**0.7**
20. Recent (<2 weeks) febrile illnesses in children <5 years (N=total sample)								
Child w/fever in last 2 weeks	89	42.4	113	37.8	68	32.5	**270**	**37.6**
No child w/fever in last 2 weeks	121	57.6	186	62.2	141	67.5	**448**	**62.4**
Does not know	0	0.0	0	0.0	0	0.0	**0**	**0.0**
21. Age of this child (N= # of children with fever in last 2 weeks)								
<1 year	27	30.3	25	22.1	21	30.9	**73**	**27.0**
1 year	44	49.4	44	38.9	26	38.2	**114**	**42.2**
2 years	4	4.5	14	12.4	9	13.2	**27**	**10.0**
3 years	5	5.6	18	15.9	10	14.7	**33**	**12.2**
4 years	9	10.1	11	9.7	2	2.9	**22**	**8.2**
22. First place of treatment procurement by mothers for feverish child (N as above)								
At home	2	2.3	4	3.5	2	2.9	**8**	**3.0**
Private nurse	2	2.3	3	2.7	0	0.0	**5**	**1.9**
Prophet (faith healer)	1	1.1	3	2.7	5	7.4	**9**	**3.3**
Drugstore	0	0.0	0	0.0	0	0.0	**0**	**0.0**
Traditional healer	0	0.0	1	0.9	0	0.0	**1**	**0.4**
Health facility	79	88.8	96	85.0	54	79.4	**229**	**84.8**
Nothing	5	5.6	6	5.3	7	10.3	**18**	**6.7**

Other	0	0.0	0	0.0	0	0.0	**0**	**0.0**
23. Medication given by mothers to child with fever (N as above, total >100%)								
Nothing	14	15.7	10	8.9	11	16.2	**35**	**13.0**
Cloroquina	52	58.4	80	70.8	38	55.9	**170**	**63.0**
Fansidar	2	2.3	1	0.9	1	1.5	**4**	**1.5**
Aspirin/paracetamol	49	55.1	73	64.6	38	55.9	**160**	**59.3**
Injection	3	3.4	3	2.7	2	2.9	**8**	**3.0**
Traditional medication	0	0.0	2	1.8	2	2.9	**4**	**1.5**
Does not know	1	1.1	2	1.8	2	2.9	**4**	**1.5**
Other	8	9.0	14	12.4	8	11.8	**30**	**11.1**
24. Duration of antimalaria medication in a child with fever (N= those receiving anti-malarials above)								
1 day	2	3.8	3	3.4	0	0.0	**5**	**2.8**
2 days	3	5.7	7	7.9	1	2.6	**11**	**6.1**
3 days	33	62.3	57	64.0	32	82.1	**122**	**67.4**
4 days	7	13.2	11	12.4	4	10.3	**22**	**12.2**
5 days	1	1.9	6	6.7	1	2.6	**8**	**4.4**
6 days	1	1.9	0	0.0	0	0.0	**1**	**0.6**
7 days	6	11.3	5	5.6	1	2.6	**12**	**6.6**
25. Prenatal consult in last preganacy (N=total sample)								
Yes	205	97.6	297	99.3	201	96.2	**703**	**97.9**
No	1	0.5	2	0.7	7	3.4	**10**	**1.4**
26. Number of consults (N= # Yes above)								
1 consult	15	7.3	21	7.1	10	5.0	**46**	**6.5**
2 consults	17	8.3	23	7.7	18	9.0	**58**	**8.3**
3 or more consults	155	75.6	231	77.8	167	83.1	**553**	**78.7**
unknown	15	7.3	21	7.1	6	3.0	**42**	**6.0**
without data	3	1.5	1	0.3	0	0.0	**4**	**0.6**
27. Stage of pregnancy at the first prenatal consult (N as above)								
I trimester	46	22.4	56	18.9	52	25.9	**154**	**21.9**
II trimester	136	66.3	203	68.4	119	58.0	**458**	**65.1**
III trimester	14	6.8	34	11.4	24	11.7	**72**	**10.2**
No data	9	4.4	4	1.3	6	2.9	**19**	**2.7**
28. Pregnant women who had venous blood sample in ANC (N=as above)								
Yes	188	89.5	267	89.3	190	90.9	**645**	**89.8**
No	16	7.6	27	9.0	11	5.3	**54**	**7.5**
without data	6	2.9	5	1.7	8	3.8	**19**	**2.7**
29. Mothers who know what lab test was for (N=#Yes for each site above)								

Syhilis	33	17.6	42	15.7	50	26.3	**125**	**19.4**
Plasmodium	10	5.3	7	2.6	4	2.1	**21**	**3.3**
Anemia	18	9.6	9	3.4	16	8.4	**43**	**6.7**
Do not know	96	51.1	151	56.6	119	62.6	**366**	**56.7**
Other	31	16.5	58	21.7	1	0.5	**90**	**14.0**
30. MCH staff explained lab result (N=as above)								
Yes	116	61.7	180	67.4	160	84.2	**456**	**70.7**
No	69	36.7	82	30.7	19	10.0	**170**	**26.4**
without data	3	1.6	5	1.9	11	5.8	**19**	**2.9**
31. Mothers who took malaria prophylaxis during most recent pregnancy (N=total sample)								
Yes	25	11.9	42	14.1	7	3.4	**74**	**10.3**
No	170	81.0	251	84.0	198	94.7	**619**	**86.2**
without data	15	7.1	6	2.0	4	1.9	**25**	**3.5**
32. Type of prophylaxis taken (N=yes above)								
Chloroquine	19	76.0	15	35.7	6	85.7	**40**	**54.1**
Fansidar	3	12.0	3	7.1	0	0.0	**6**	**8.1**
Do not know	3	12.0	24	57.1	1	14.3	**28**	**37.8**
33. Mother with fever during pregnancy (N=total sample)								
Yes	100	47.6	158	52.8	83	39.7	**341**	**47.5**
No	110	52.4	138	46.2	126	60.3	**374**	**52.1**
Do not know	0	0.0	0	0.0	0	0.0	**0**	**0.0**
without data	0	0.0	3	1.0	0	0.0	**3**	**0.4**
34. Mother with fever during pregnancy who took medication (N=#Yes for each site above)								
Antimalaria drugs	37	37.0	58	36.7	36	43.4	**131**	**38.4**
Nothing	19	19.0	44	27.8	28	33.7	**91**	**26.7**
Do not know	9	9.0	19	12.0	9	10.8	**37**	**10.9**
Other	35	35.0	36	22.8	10	12.0	**81**	**23.8**
35. Place of last delivery (N=total sample)								
At hospital (institutional)	189	90.0	255	85.3	166	79.4	**610**	**85.0**
Other	17	8.1	42	14.1	42	20.1	**101**	**14.1**
without data	4	1.9	2	0.7	1	0.5	**7**	**1.0**
36. Who attended last non-institutional birth (N=# "other" above)								
Family, friends or neighbors	11	64.7	31	73.8	29	69.0	**71**	**70.3**
Untrained TBA	0	0.0	2	4.8	7	16.7	**9**	**8.9**
Trained TBA	0	0.0	2	4.8	3	7.1	**5**	**5.0**
Health Workers	0	0.0	0	0.0	0	0.0	**0**	**0.0**
Nobody	1	5.9	4	9.5	3	7.1	**8**	**7.9**
without data	5	29.4	3	7.1	0	0.0	**8**	**7.9**

37. Danger signs in pregnancy known by mothers (N=total sample)								
0	120	57.1	119	39.8	54	25.8	**293**	**40.8**
1	33	15.7	66	22.1	56	26.8	**155**	**21.6**
2	25	11.9	71	23.8	67	32.1	**163**	**22.7**
3	20	9.5	24	8.0	25	12.0	**69**	**9.6**
>3	12	5.7	19	6.4	7	3.4	**38**	**5.3**
without data	0	0.0	0	0.0	0	0.0	**0**	**0.0**
64. Mothers who had an emergency transport plan during their last pregnancy (N=total sample, numbering out of order)								
yes	35	16.7	81	27.1	79	38.0	**195**	**27.2**
no	158	75.2	199	66.6	118	56.7	**475**	**66.2**
do not know	17	8.1	19	6.4	11	5.3	**47**	**6.5**
38. Mothers who heard about AIDS (N=total sample)								
Yes	204	96.7	288	94.0	206	98.6	**698**	**96.1**
No	3	1.4	10	3.7	2	1.0	**15**	**2.2**
without data	3	1.9	1	2.3	1	0.5	**5**	**1.7**
39. Places where mothers get information about AIDS (N="Yes" above)								
Radio	180	88.2	249	86.5	186	90.3	**615**	**88.1**
TV	68	33.3	20	6.9	31	15.0	**119**	**17.0**
Friends/family	77	37.7	121	42.0	91	44.2	**289**	**41.4**
Theatre	41	20.1	57	19.8	38	18.4	**136**	**19.5**
Newspaper/magazine	18	8.8	4	1.4	12	5.8	**34**	**4.9**
Teachers/school	19	9.3	7	2.4	6	2.9	**32**	**4.6**
Church	9	4.4	7	2.4	1	0.5	**17**	**2.4**
Traditional healers	2	1.0	0	0.0	0	0.0	**2**	**0.3**
TBAs	1	0.5	1	0.3	1	0.5	**3**	**0.4**
Murals	4	2.0	1	0.3	0	0.0	**5**	**0.7**
Pamphets/posters	27	13.2	24	8.3	12	5.8	**63**	**9.0**
Health units	119	58.3	161	55.9	122	59.2	**402**	**57.6**
At work	5	2.5	4	1.4	0	0.0	**9**	**1.3**
CLCs	15	7.4	25	8.7	8	3.9	**48**	**6.9**
Other persons	0	0.0	0	0.0	0	0.0	**0**	**0.0**
other	3	1.5	14	4.9	0	0.0	**17**	**2.4**
without data	0	0.0	0	0.0	0	0.0	**0**	**0.0**
40. Correct knowledge of ways to prevent AIDS according to mothers (N as above)								
0	5	2.5	17	5.9	7	3.4	**29**	**4.2**
1	77	37.7	91	31.6	41	19.9	**209**	**29.9**
2	49	24.0	85	29.5	90	43.7	**224**	**32.1**
3	40	19.6	72	25.0	54	26.2	**166**	**23.8**

>3	33	16.2	23	8.0	14	6.8	**70**	**10.0**
without data	0	0.0	0	0.0	0	0.0	**0**	**0.0**
41. Correct kowledge of ways of getting AIDS according to mothers (N as above)								
a. Intercourse	159	77.9	224	77.8	197	95.6	**580**	**83.1**
b. Mosquito bite	39	19.1	57	19.8	54	26.2	**150**	**21.5**
c. shake hands	23	11.3	23	8.0	18	8.7	**64**	**9.2**
d. needle/bladers not sterilized	146	71.6	212	73.6	170	82.5	**528**	**75.6**
e. share clothes	36	17.6	53	18.4	19	9.2	**108**	**15.5**
f. bad spirit	26	12.7	37	12.8	18	8.7	**81**	**11.6**
g. blood transfusion	162	79.4	207	71.9	167	81.1	**536**	**76.8**
h. maternal transmission to newborn	170	83.3	237	82.3	175	85.0	**582**	**83.4**
I. fetichism	36	17.6	23	8.0	3	1.5	**62**	**8.9**
j. cough	50	24.5	48	16.7	31	15.0	**129**	**18.5**
k. kisses/embraces	42	20.6	81	28.1	26	12.6	**149**	**21.3**
42. Mothers who know that mother-to-child transmission of HIV can be prevented (N="yes" to 41h above)								
Yes	15	8.8	26	11.0	32	18.3	**73**	**12.5**
No	114	67.1	164	69.2	111	63.4	**389**	**66.8**
without data	41	24.1	47	19.8	32	18.3	**120**	**20.6**
43. Mothers who believe that a "healthy" person could be HIV infected (N="Yes" to Q38)								
Yes	173	84.8	235	81.6	170	82.5	**578**	**82.8**
No	16	7.8	32	11.1	10	4.9	**58**	**8.3**
Do not know	12	5.9	18	6.3	21	10.2	**51**	**7.3**
without data	3	1.5	3	1.0	5	2.4	**11**	**1.6**
44. Mothers who know someone with AIDS (N as above)								
Yes	32	15.7	95	33.0	84	40.8	**211**	**30.2**
No	169	82.8	188	65.3	116	56.3	**473**	**67.8**
Do not know	0	0.0	3	1.0	5	2.4	**8**	**1.1**
without data	3	1.5	2	0.7	1	0.5	**6**	**0.9**
45. Mothers who know someone who has died due to AIDS (N as above)								
Yes	70	34.3	147	51.0	107	51.9	**324**	**46.4**
No	130	63.7	136	47.2	97	47.1	**363**	**52.0**
Do not know	0	0.0	0	0.0	0	0.0	**0**	**0.0**
without data	4	2.0	5	1.7	2	1.0	**11**	**1.6**
46. Mothers' relationship with person who died due to AIDS (N=yes to Q45, Total >100%)								
friends	15	21.4	42	28.6	16	15.0	**73**	**22.5**
family	21	30.0	44	29.9	28	26.2	**93**	**28.7**
neighbours	36	51.4	86	58.5	65	60.7	**187**	**57.7**

partners	1	1.4	0	0.0	0	0.0	**1**	**0.3**
refuse to say	3	4.3	10	6.8	16	15.0	**29**	**9.0**
47. Mothers belive that women in community are in danger situation to get AIDS (N="Yes" to Q38)								
Yes	146	71.6	163	56.6	156	75.7	**465**	**66.6**
No	24	11.8	70	24.3	24	11.7	**118**	**16.9**
Do not know	30	14.7	52	18.1	25	12.1	**107**	**15.3**
without data	4	2.0	3	1.0	1	0.5	**8**	**1.1**
48. Mothers' perception of their own chance of getting AIDS (N as above)								
None	11	5.4	13	4.5	13	6.3	**37**	**5.3**
minimum	55	27.0	61	21.2	22	10.7	**138**	**19.8**
moderate	43	21.1	108	37.5	50	24.3	**201**	**28.8**
high	48	23.5	58	20.1	55	26.7	**161**	**23.1**
Unknown	43	21.1	46	16.0	63	30.6	**152**	**21.8**
without data	4	2.0	2	0.7	3	1.5	**9**	**1.3**
49. Women who know about the existence of an HIV test (N as above)								
Yes	148	72.5	184	63.9	177	85.9	**509**	**72.9**
No	50	24.5	100	34.7	27	13.1	**177**	**25.4**
Do not know	0	0.0	1	0.3	0	0.0	**1**	**0.1**
without data	6	2.9	3	1.0	2	1.0	**11**	**1.6**
50. Women who know where to access an HIV test (N="yes" above, total >100%)								
Blood bank	20	13.5	25	13.6	32	18.1	**77**	**15.1**
Health facility	105	70.9	132	71.7	101	57.1	**338**	**66.4**
Private clinic	3	2.0	2	1.1	0	0.0	**5**	**1.0**
VCT center	38	25.7	39	21.2	64	36.2	**141**	**27.7**
Do not know	14	9.5	11	6.0	4	2.3	**29**	**5.7**
51. Reasons to access an HIV test (N as above, total >100%)								
Curiosity	59	39.9	79	42.9	77	43.5	**215**	**42.2**
Impending marriage	2	1.4	3	1.6	5	2.8	**10**	**2.0**
Family planning	2	1.4	4	2.2	4	2.3	**10**	**2.0**
To plan the future	9	6.1	21	11.4	18	10.2	**48**	**9.4**
Protect their partner	8	5.4	8	4.3	13	7.3	**29**	**5.7**
Protect their child	2	1.4	7	3.8	5	2.8	**14**	**2.8**
If they are ill	72	48.6	100	54.3	97	54.8	**269**	**52.8**
Do not know	23	15.5	24	13.0	11	6.2	**58**	**11.4**
Other	0	0.0	0	0.0	0	0.0	**0**	**0.0**
52. Reasons to not access an HIV test (N as above, total >100%)								
Lose employment	3	2.0	8	4.3	0	0.0	**11**	**2.2**
Lose their partner	7	4.7	11	6.0	19	10.7	**37**	**7.3**

Fear to know their status	64	43.2	98	53.3	88	49.7	**250**	**49.1**
Stigma/social isolation	24	16.2	27	14.7	31	17.5	**82**	**16.1**
Accelerates death	36	24.3	64	34.8	60	33.9	**160**	**31.4**
Other	36	24.3	31	16.8	20	11.3	**87**	**17.1**
53. Mother's belief about who should be tested for HIV (N as above, total >100%)								
Sex workers	29	19.6	27	14.7	14	7.9	**70**	**13.8**
Clients of sex workers	27	18.2	24	13.0	10	5.6	**61**	**12.0**
Long distance truck drivers/soldiers/traveling businessmen	31	20.9	23	12.5	27	15.3	**81**	**15.9**
Individuals with multiple partners	28	18.9	35	19.0	21	11.9	**84**	**16.5**
Sick people	18	12.2	35	19.0	31	17.5	**84**	**16.5**
People who want to marry	5	3.4	5	2.7	10	5.6	**20**	**3.9**
Everyone	74	50.0	71	38.6	83	46.9	**228**	**44.8**
Those who are secually active	38	25.7	18	9.8	15	8.5	**71**	**13.9**
Others	11	7.4	8	4.3	11	6.2	**30**	**5.9**
Do not know	21	14.2	28	15.2	26	14.7	**75**	**14.7**
54. Women who have been tested for HIV (N as above)								
Yes	8	5.4	8	4.3	13	7.3	**29**	**5.7**
No	139	93.9	176	95.7	153	86.4	**468**	**91.9**
without data	1	0.7	1	0.5	11	6.2	**13**	**2.6**
55. Mothers who believe that youth from primary schools should learn about AIDS (N="yes" to Q38)								
Yes	147	72.1	201	69.8	153	74.3	**501**	**71.8**
No	40	19.6	65	22.6	28	13.6	**133**	**19.1**
Do not know	13	6.4	21	7.3	21	10.2	**55**	**7.9**
without data	4	2.0	1	0.3	4	1.9	**9**	**1.3**
56. Mothers who believe that youth from secondary schools should learn about AIDS (N as above)								
Yes	182	89.2	260	90.3	180	87.4	**622**	**89.1**
No	7	3.4	11	3.8	8	3.9	**26**	**3.7**
Do not know	11	5.4	16	5.6	14	6.8	**41**	**5.9**
without data	4	2.0	1	0.3	4	1.9	**9**	**1.3**
57. If someone known gets AIDS, mothers will be willing to (N as above, total >100%)								
Visit him/her at home	129	63.2	165	57.3	163	79.1	**457**	**65.5**
shake her/his hand	95	46.6	127	44.1	119	57.8	**341**	**48.9**
share meals with him/her	54	26.5	98	34.0	80	38.8	**232**	**33.2**
share water from the same well	97	47.5	141	49.0	143	69.4	**381**	**54.6**
Live in the same house	118	57.8	141	49.0	137	66.5	**396**	**56.7**
58. Names for a condom given by mothers (N=total sample, total %>100)								

"jeito"	164	78.1	231	77.3	156	74.6	**551**	**76.7**
preservativo	45	21.4	44	14.7	76	36.4	**165**	**23.0**
camisinha	13	6.2	15	5.0	12	5.7	**40**	**5.6**
camisola	0	0.0	0	0.0	2	1.0	**2**	**0.3**
condom	1	0.5	32	10.7	16	7.7	**49**	**6.8**
Does not Know	3	1.4	18	6.0	5	2.4	**26**	**3.6**
59. Mothers who use condoms with their partners (N as above)								
Never	168	80.0	268	89.6	173	82.8	**609**	**84.8**
rarely	5	2.4	9	3.0	4	1.9	**18**	**2.5**
sometimes	10	4.8	7	2.3	14	6.7	**31**	**4.3**
usually	5	2.4	1	0.3	1	0.5	**7**	**1.0**
always	2	1.0	4	1.3	7	3.3	**13**	**1.8**
refuse to say	1	0.5	3	1.0	2	1.0	**6**	**0.8**
without data	19	9.0	7	2.3	8	3.8	**34**	**4.7**
60. For mothers who ever use a condom, used with:								
husband	13	61.9	11	61.1	14	56.0	**38**	**59.4**
fixed partner	4	19.0	3	16.7	6	24.0	**13**	**20.3**
boyfriend	1	4.8	2	11.1	2	8.0	**5**	**7.8**
Intercourse sporadic	3	14.3	1	5.6	2	8.0	**6**	**9.4**
suspect pesons	0	0.0	1	5.6	1	4.0	**2**	**3.1**
61. Places known by mothers where condoms are available (N=Total sample, total %>100)								
shops	21	10.0	39	13.0	22	10.5	**82**	**11.4**
drugstore	33	15.7	5	1.7	6	2.9	**44**	**6.1**
street sellers	41	19.5	19	6.4	27	12.9	**87**	**12.1**
fixed street sellers	100	47.6	101	33.8	127	60.8	**328**	**45.7**
hospitals	81	38.6	88	29.4	50	23.9	**219**	**30.5**
Others	0	0.0	17	5.7	0	0.0	**17**	**2.4**
do not know	14	6.7	14	4.7	21	10.0	**49**	**6.8**
62. What mothers think is being done in the community to prevent AIDS (N as above)								
nothing	36	17.1	29	9.7	5	2.4	**70**	**9.7**
use of condoms	111	52.9	135	45.2	71	34.0	**317**	**44.2**
avoid having intercourse with sex workers	39	18.6	41	13.7	11	5.3	**91**	**12.7**
fidelity	38	18.1	52	17.4	17	8.1	**107**	**14.9**
abstinence	7	3.3	13	4.3	1	0.5	**21**	**2.9**
decrease number of partners	22	10.5	43	14.4	21	10.0	**86**	**12.0**
not share needles, blades	15	7.1	17	5.7	13	6.2	**45**	**6.3**
do not know	40	19.0	73	24.4	103	49.3	**216**	**30.1**
others	0	0.0	2	0.7	0	0.0	**2**	**0.3**

63. Where mothers think people living with AIDS can receive support (N as above, total%>100)								
health facilities	183	87.1	224	74.9	149	71.0	**556**	**77.4**
church	13	6.2	16	5.4	22	10.5	**51**	**7.1**
neighbors	3	1.4	4	1.3	17	8.1	**24**	**3.3**
family	15	7.1	50	16.7	72	34.4	**137**	**19.1**
home-based care volunteers	8	3.8	10	3.3	12	5.7	**30**	**4.2**
traditional healers	5	2.4	27	9.0	4	1.9	**36**	**5.0**
Do not know	0	0.0	10	3.3	0	0.0	**10**	**1.4**

Annex 3B: IMCI Study Summary

Health Worker Performance under Field Conditions in Central Mozambique, One Year after Training in Integrated Management of Childhood Illness

By Paula E. Brentlinger, Stephen Morris, Kenneth Sherr, Maria Ana Chadreque Correia, and Stephen Gloyd

Summary:

Background: Health worker training in Integrated Management of Childhood Illness (IMCI) began in 2001 in central Mozambique, where malaria transmission occurs year-round. One year later, we attempted to describe associations between IMCI training, health facility characteristics, and clinical performance of health workers. Because of the local importance of malaria, we focused on care for children presenting with the chief complaint of fever.

Methods: In 16 health facilities, we observed 8 health workers trained in IMCI and 8 other workers in their encounters with 161 febrile children under 5 years of age, and compared health worker performance with IMCI norms. We also evaluated health facility staffing and caseloads through interviews with administrators.

Results: IMCI-trained health workers were significantly more likely to diagnose malaria, diagnose co-morbid conditions in addition to malaria, prescribe both antimalarials and antibiotics, and administer pre-transfer medications to the sickest children. IMCI-trained health workers diagnosed malaria in 96% of the febrile children they attended. Where caseloads were higher, patient management was significantly less complete. Neither group of health workers routinely instructed caregivers on infant feeding, hydration, or medication administration. Co-morbid conditions were seldom treated.

Conclusions: Although patient evaluations conducted by IMCI-trained health workers were significantly more complete than those conducted by health workers untrained in IMCI, neither group performed well in comparison to IMCI standards, and malaria was probably overdiagnosed. IMCI training alone is unlikely to result in adequate clinical effectiveness without improvement in the diagnostic specificity of the IMCI fever algorithm and without increased health-sector investment in human and material resources.

Annex 3C: Community Mobilization Assessment Summary

ASSESSMENT AND RECOMMENDATIONS

COMMUNITY MOBILIZATION ACTIVITIES RELATED TO EARLY ANTENATAL CARE IN MANICA AND SOFALA PROVINCES, MOZAMBIQUE

To:
Health Alliance International

Barbara Crook, Consultant
March 24, 2003

Executive Summary

To date, Health Alliance International (HAI) has made considerable progress in developing communication strategies and community mobilization activities to encourage early seeking of antenatal care. As a result of these efforts, in some areas of Manica Province seeking of antenatal care before 24 weeks has improved. Nevertheless, the plan to introduce rapid syphilis testing into the health posts and centers in Manica and Sofala Provinces within the coming year make this a critical time to improve community mobilization further. Early antenatal care is crucial to ensure maximum outcomes from the planned expansion of syphilis testing and treatment.

Toward this end, PATH, in collaboration with HAI, contracted the consultant to:

- Review community mobilization efforts to date and any data on why women do not start antenatal visits earlier in pregnancy;
- Travel to Mozambique from February 24 through March 3, 2003 to clarify and add to information reviewed above by interviewing HAI staff, pregnant women, opinion leaders, and local experts;
- Make recommendations for modification of current community mobilization and/or suggest additional activities, and
- Develop, with Mozambique HAI staff, a plan to evaluate CM changes and additions.

This document analyses community mobilization efforts that have already been developed and implemented, identifies gaps based on new information/insights from the consultant's visit, and provides recommendations, specific activities, behavior change communication (BCC) objectives and evaluation indicators and methods that will reinforce and strengthen existing efforts. The consultant's Mozambique visit activities are detailed in Annex 1. The scope of work is in Annex 2.

To supplement previous HAI and Provincial Health Directorate (DPS) and District Health Directorate (DDS) research, the consultant conducted several activities during her visit to Manica and Sofala Provinces from February 24 to March 1, 2003. These activities included:

- Information-gathering meetings with DPS staff responsible for Maternal and Child Health (MCH) and community health activities;

- Information-gathering meetings with non-governmental organization (NGO) representatives and a Community Leaders Council (CLC);

- Focus group discussions (FGDs) with pregnant women during their first antenatal care (ANC) clinic visit to the health facilities, and

- Structured meetings with MCH nurses at health centers.

During the process of gathering this information in Chimoio, the consultant met with HAI staff involved in antenatal care, syphilis prevention, and HIV/AIDS projects to review the data gathered. Through this review process, realistic community mobilization activities and evaluation strategies were discussed. However, there was not time for the final recommendations for community mobilization and evaluation activities to be reviewed by HAI staff before the consultant left Mozambique. As such, they may need to be further refined before a final evaluation plan is agreed to.

Briefly, community mobilization to improve early seeking of antenatal care in the Manica and Sofala Provinces of Mozambique will require HAI to further coordinate and expand efforts with NGOs and church groups, key decision-makers, and stakeholders at a variety of levels. To assure sustained action, communities will need to work together more effectively through CLCs to identify and develop local solutions to improve birth outcomes and syphilis prevention.

HAI and DPS/DDS jointly should further support community mobilization communication efforts by:

- Carefully identifying gaps in the existing data and then conducting very limited supplemental research on early seeking of antenatal care and syphilis testing/treatment. Apply that data to the design of measurable behavior change communication activities.

- Refining communication objectives in terms of measurable indicators;

- Further developing and testing early antenatal care message concepts;

- Expanding BCC print materials design and development to support CLCs, Cultural Activists Program (PAC) and health worker informational talks;

- Conducting detailed media planning (radio programming) that involves increased coordination and prioritization of programming;

- Conceptualizing and implementing long-term structural strategies that directly affect early antenatal care (e.g., resolving staff shortages at health centers; assigning more women nurses to health posts)

- Completing detailed community mobilization implementation plans

HAI will:

- Identify one staff person who, in collaboration with the DPS/DDS, will be responsible for coordination and development of community mobilization activities related to early antenatal care and syphilis screening and treatment. This staff person should be trained and experienced in formative research and behavior change communication (BCC) skills.

- Provide additional technical assistance and funds for well-researched message design, informational and educational materials production, and expanded radio programs and community drama production.

- Increase coordination with and provide additional assistance to community groups such as CLCs, PAC, church groups, OMES and Kubatsirana who are motivated to work on early antenatal care and syphilis community action planning and implementation activities.

DPS/DDS will:

- Coordinate with HAI the development of new training activities and materials for MCH nurses at health posts and centers.

- In close collaboration with HAI, finalize provincial and district level community mobilization strategies (e.g., strengthen work with CLCs) and develop specific action plans;

- Revise and refine the district community mobilization plans based on:

    - Analysis of existing baseline data;
    - Results of the provincial and district review of community mobilization issues, and
    - Previous implementation plans

The short-term strategy include involves making sure that DPS health posts and centers are consistently stocked (syphilis tests and medication).

Annex 4: Agreements

WORK CONTRACT WITH PAC

CONTRATO DE TRABALHO

Entre a Health Alliance International (HAI), Organização Não Governamental Americana com a sede na Rua Dr. Araújo de Lacerda, talhão número 147, representado pelo Senhor KENNETH HOWARD SHERR, Coordenador, residente nesta cidade de Chimoio, diante designado por primeiro outorgante.

O Programa de Activistas Culturais (PAC), Organização Não Governamental Moçambicana com a sede nas instalações do (HAI), representada pelo Senhor ALEXANDRE LOUIRENÇO, Coordenador, residente no Chimoio, designado por segundo outorgante.

Celebra-se o primeiro contrato de trabalho em conformidade com o disposto nas clausulas seguintes:

CLAÚSÚLA PRIMEIRA
O primeiro outorgante compromete-se livremente em prestar os serviços de assistência técnica ao segundo outorgante sem nenhuma remuneração.

CLAÚSULA SEGUNDA
O primeiro outorgante abarca o seu apoio nas seguintes áreas:

Organização e propagação.
- Plano de actividades.
- Procura de fundos.
- Publicidade.
- Redacção de propostas.
- Comunicação com os doadores e beneficiários.

CLAÚSULA *TERCEIRA*
O primeiro outorgante *além do* apoio *técnico* tem ainda a obrigação de aconselhar a Direcção e fazer auditorias sempre que necessário.

CLAÚSULA QUARTA
O primeiro outorgante pela posição contratual compromete-se a ceder os documentos *legalmente exigidos* para o efeito.

CLAÚSULA QUINTA
O primeiro outorgante no seu apoio, não goza de direitos de decisão nem funcionamento de Actividades internas

O primeiro outorgante e o segundo outorgante poderão revogar unilateralmente o contrato logo que se verificarem *as* seguintes causas:

1. Diminuição de qualidade de prestação de serviço.
2. Irregularidade na prestação de serviços.

CLAÚSULA OITAVA

O presente contrato tem efeito imediatos e *é por* período de I (um ano) , renovável por escrito por ambas as partes.

CLAÚSULA NONA

Qualquer questão omissa *neste* contrato e o incumprimento das obrigações aplicar- se- á a via extra judicial.

CLAÚSULA DÉCIMA

O presente contrato entra em vigor a partir da sua assinatura pelo primeiro e o segundo outorgante.

Chimoio, aos 17 de Abril de 2003

O PRIMEIRO OUTORGANTE

Dr. Kenneth Heward Sherr

O SEGUNDO OUTORGANTE

Alexandre Lourenço

(Translation on next page.)

WORK CONTRACT WITH PAC

Between the Health Alliance International (HAI), an American non-governmental organization with address in Dr. Araujo Lacerda, Number 147, and represented by KENNETH OWARD SHERR, Country Director, a resident of Chimoio City, designated as the first party.

Cultural activist program (PAC), a Mozambican non-governmental organization with address in HAI, represented by ALEXANDRE LOURENCO, Coordinator, a non-resident of Chimoio, designated as a second party.

We propose the present contract in accordance to the following conditions:

1. First party commits itself to provide technical assistance without expecting any remuneration.

2. First party comprises the following activities:
   Assistance with organization and promotion
   - Planning activities
   - Getting funding
   - Writing proposals

   Communicates with donors and recipients

3. The first party will provide technical support and advice. It has the obligation for providing counseling to the direction, plus will organize audits when necessary for the second party.

4. First party will provide legal documents when requested.

5. First party doe not have influential power on the functioning activities of the second party.

6. Due to the nature of the work, the first party is exempt from civil responsibilities on the second party.

7. First and second parties may amend the contract after reviewing the following: a decrease in the quality of the service and/or irregularities in the availability of services.

8. The present contract is valid for a period of one year and can be renewed in writing by both sides.

9. Any omission or failure to comply with the components of theis contract will result in the application of the extra-judicial law.

10. The present contract will be valid after the first and second parties provide their signatures at the bottom of the page.

Chimoio, 17-04-2003

WORK AGREEMENT Health Alliance International/Kubatsirana

Agreement for Performace of Work between: Health Alliance International ("HAI")
And
Kubatsirana

Project: WHO/Italy/HAI HIV/AIDS Mitigation Project
Address: Rua Mayor Serpa Pinto 294
4 Andar de Saude da Comunidade
Beira, Sofala
Mozambique

Telephone: (03)324 271

For the performace of: Implementation of Activities Related the Home-Based Care Section of WHO/Italy/HAI HIV/AIDS Mitigation Project

HAI will, in consideration for the work done, pay a fixed sum of: US$16,000=

In installments of: Four (4) **Payable on:** Quarterly Basis

The detailed statement of work to be performed and any related budget is contained in/set out below:

A) SUPPORT THE DEVELOPMENT OF COMMUNITY AND HOMEBASED CARE IN THE DISTRICTS OF DONDO, NHAMATANDA AND BUZI.
B) SEND TO HAI MONTHLY ACTIVITY AND FINANCIAL REPORTS
C) THE BUDGET RELATED TO THAT WORK IS IN ANNEX 2

The contractual partner will complete and deliver the work by: 30 JUNE 2003, STARTING 30 JUNE 2002

A technical report is required: ☐ YES ☐ NO

A financial statement is required: ☐ YES ☐ NO

Payment is to be made into the following bank account of the contractual partner:

Bank account name and number: KUBATSIRANA - AJUDA MÚTUA; NR 52782982

Bank Name: BIM - CHIMOIO

Bank Address: _____

The undersigned parties hereby conclude the present agreement consisting of the above terms and the General Conditions overleaf.

For Health Alliance International

Signature: _____

Name and Title: Mr. Kenneth Sherr, MPH
Country Coordinator

Date: 13-06-02

For the Contractual Partner (Kubatsirana)

Signature: FAUSTINO MANUEL DE ARAUJO

Name and Title: Mr. Faustino
Director

Date: 13/JUNHO/2002

REPÚBLICA DE MOÇAMBIQUE
MINISTÉRIO DOS NEGÓCIOS ESTRANGEIROS E COOPERAÇÃO
DIRECÇÃO PARA OS ASSUNTOS JURÍDICOS E CONSULARES

À
Aliança Internacional para a Saúde

MAPUTO

Nº 09/DAJC/2002

Assunto: COMUNICAÇÃO DE DESPACHO

Serve a presente para comunicar a ONG Aliança Internacional para a Saúde que de conformidade com a vossa solicitação, foi por Despacho de 29 de Novembro de 2001, de Sua Excelência o Ministro dos Negócios Estrangeiros e Cooperação em anexo, **prorrogada a autorização** para que esta ONG continue a desenvolver as suas actividades no país por um período de dois anos, a contar da data do Despacho (22/1/02), para o efeito, devendo observar o disposto no Decreto nº 55/98 de 13 de Outubro.

Com nossos melhores cumprimentos.

Maputo, aos 30 Janeiro de 2002

P/ O Director Adjunto

Mário Saraiva Ngwenya

Ministry of Foreign Relations and Cooperation
Directorate for Legal and Consular Affairs

This letter responds to the request provided by Health Alliance International, a non-governmental organization, for renewal of authorization to continue implementing activities in Mozambique. This authorization is provided by His Excellency Minister of Foreign Relations and Cooperation, and is valid for a period of two years, beginning on the date provided in Dispatch dated January 22, 2002, in accordance with Decree #55/98 from the 13th of October.

With our sincerest regards,

Maputo, January 30, 2002

Adjunct Director

Mario Saraiva Ngwenya

Annex 5: Resume of New CS Manager

74-A, Phase II, GECHS, Model Town Link Road,
Lahore-54700, Pakistan
Tel: 011-92-42-5168834 (PAK)
Tel/Fax: 1-877-817-0462(USA Toll Free Number)
Email. jawad@alumni.washington.edu
jasghar_2000@yahoo.com
http://www.geocities.com/SoHo/Cafe/9653

Rana Jawad Asghar, MD. MPH.

Experience

Jul 2002- Ongoing

Consultant Family Physician Al-Hafeez Hospital, Lahore

Working as a consultant family Physician.

Sept 2001 – 31st March 2002

Lecturer Clinical Research Unit Department of Infectious & Tropical Diseases London School of Hygiene and Tropical Medicine, UK

Hired by Gates Malaria Programme to develop innovative training programmes for Malaria. (This is a USD 40 million grant awarded to London School of Hygiene and Tropical Medicine by Bill & Melinda Gates Foundation for research and training in Malaria) The Gates Malaria Programme (GMP) will play a key role, together with other initiatives and organisations in meeting the international target of halving child mortality from malaria by 2010. My job was to develop innovative training programmes especially for four African countries (Tanzania, Malawi, Gambia & Ghana) which could then be used more globally. I worked and proposed training strategies for malaria prevention and malaria management in pregnancy. I also initiated work to develop income generating courses for African Training Centres which will make them financially independent and self-sustainable in the long term.

I also participated in the teaching programmes of in-house and distance based MSc students.

August – Sept 2001

Consultant Infectious Diseases Surveillance System Government of Pakistan

Infectious diseases remain a major cause of morbidity and mortality in Pakistan despite the availability of well-tested interventions for their control. It has become imperative to implement effective and sustainable measures for the control of Infectious diseases based on the establishment of an effective information generation system in the form of the proposed Infectious disease Surveillance System. Government of Pakistan through Pakistan Medical Research Council hired my services to develop a proposal for the above-mentioned programme.

July 99 – August 2001

Research Associate Division of Infectious Diseases Stanford University

Project Management: Directed a multi-center Helicobacter pylori transmission study, which will recruit 6000 families (20,000 subjects) in the bay area in a five-year period. Responsibilities included the followings

- Contact person for NIH, CDC and other agencies for different studies by my PI.
- Coordination with Human Subject committees at different institutions.
- Coordination with different hospitals and clinics to make required recruitment possible.
- Coordination and supervision of study staff.
- Development of Quality Assurance (QA) and Quality Check (QC) procedures.
- Preparation of motivational flyers, posters and campaigns for recruitment.
- Participation in designing of questionnaires, manual preparation, database setup.
- Entering and analysis of data and writing articles for publication in journals.
- Responsible for weekly and monthly reports of the progress of the study.

Consulting for World Health Organization Eastern Mediterranean Region

This consultation comprises the development of integrated guidelines to evaluate Primary Health Care (PHC) in the countries of the Eastern Mediterranean Region (EMRO) of the WHO. Over the past decade, a number of instruments for evaluating various components of PHC have been developed in the EMRO region. It is felt that although the instruments were individually useful, they did not form a systematic strategy for the evaluation of PHC. It recommended that the instruments developed so far need to be reviewed, additional instruments are to be developed as needed and all of them are to be integrated into systematic *Guidelines for PHC Evaluation*.

July-September 98

Internship, World Health Organization Geneva(Switzerland)

Evaluated, edited, produced new materials for Laboratory Training Courses (Emerging Infections Division). These training courses are used worldwide to train laboratory staff to track antibiotic resistance.
Worked on reference manual on emerging infectious diseases.

1997–1998

Teaching Assistant University of Washington, Seattle, USA

- Teaching Assistant for three quarters, for graduate students.
- Teaching Assistant twice (Fall97, 98) for class EPI 531(Problems in International Health). Also did independent teaching sessions for this class.
- TA for EPI 539 (Research methods for Developing Countries) in Winter 98, including independent teaching sessions of Epi-Info for this class.
- For EPI 539 class, also arranged a two days visit to another city for the whole class to do a

survey study and coordinated with different departments (local government, radio stations, police, etc) and local university there, to make all necessary arrangements.

1996–1997

Teaching / Research Assistant University of Washington, Seattle, USA

- Worked on Graduate Certificate Training Program from Oct 96 - June 97.
- This was a master level distance-learning program primarily for "CDC(Center for Disease Control, USA) Field Assignees".
- Designed Need Assessment Survey, interviewed people on the phone, and analyzed data.
- Worked in its Epidemiology Section and also helped in producing a video lecture for the program.

1993–1996

Consultant Family Physician Lahore, Pakistan

- Worked as a Family Physician in Pakistan for more than three years.

Education

- MPH, Epidemiology (International Health Program) at the **University of Washington**, Seattle. (Dec 1998)
- MCPS (Post Graduation in Family Medicine) (1994)
- Franklin Adams Scholar (One year Post graduate studies at the **University of Bristol, UK**) (1990-91)
- MBBS; (Basic medical degree equivalent to MD) 1988
- BSc.

Honors

1998

Fellow of Emerging Infectious Diseases University of Washington

"International Training and Research in Emerging Infectious Diseases"(ITREID) Paid my full tuition and salary for one year including International travel, for one year at the University of Washington.

Elizabeth Gould Award University of Washington

Annual award for most instrumental person in promoting International understanding

Nominated for Students Community Award University of Washington

Jointly nominated by Chair, Department of Epidemiology and Director, International Health program

1990 –1991

Franklin Adams Scholar, University of Bristol, UK

- Department of Epidemiology and Public Health Medicine and Department of Child Health.
- Did research study on Tuberculosis screening of overseas students for Bristol and Weston Health Authority.
- Involved in teaching of under and postgraduate students and one of my lectures was evaluated as one of the best at the end of term.
- Paid my full tuition and stipend including international travel for one year at the University of Bristol.

Leadership Initiatives

- Created and coordinated, South Asian Public Health Forum. The only electronic platform for Public Health professionals with South Asian interest (Pakistan, India, Bangladesh, Sri Lanka, Maldives, Bhutan, Nepal) to exchange information and ideas regarding public health issues. (1999).
- Member, "President's Students Forum" (1997-98) at the University of Washington. These fifteen students met the President on monthly basis to discuss the issues of students concerned with him. The President and elected students representatives did selection among more than 35000 students at the University of Washington.
- Elected as a Board Member of "Student Public Health Association" (1997-98) at the University of Washington.
- Vice President, Developing Nations Students Organization (DENSO), University of Bristol, UK.
- Chairman CME (Continued Medical Education), Pakistan Society of Family Physicians. Arranged different clinical courses, seminars and international conferences.
- Organized Health Education Society in Pakistan while I was a student. It organized seminars, lectures, published informative materials, and produced video documentaries on health education all on voluntary basis.
- Gold Medal in All Pakistan Debates.
- Elected senior Prefect (School President).
- Passed First Class in Scouting and was a Patrol Leader.

Published Articles, Columns, Scientific Papers and Presentations.

Nearly 150 published articles

- Writes for different newspapers and journals. **The Los Angeles Times** has published my article as an Op-Ed. Different US newspapers and United Nations Wire Service then reproduced the article and have also discussed it in their Editorials. US Secretary of Labor specifically addressed the article in her letter to the Los Angeles Times.
- Reviewed manuscripts for highly reputable International medical journals like "Gastroentrology", and "The Gut."
- Joint Editor, "The Family Physician", Journal of Pakistan Society of Family Physicians.
- Chief Editor / Editor of different college and school magazines

Major scientific papers and presentations

- Asghar RJ, Parsonnet J. *Helicobacter pylori* and risk for gastric adenocarcinoma. Seminars in Gastroentrology 2001; 12:203-208.
- Rahman MM, Asghar RJ, Tsai CJ, Parsonnet J. Epidemiology of *Helicobacter pylori* infection in Northern Californian Households with Diarrheal Diseases. Gastroentrology 2001; 120:A738.
- Asghar RJ. TB screening among overseas students at the University of Bristol. British Medical Journal E-letter(2000) http://www.bmj.com/cgi/eletters/320/7238/870#EL1
- Asghar RJ et al; Widal Test and Typhoid in Pakistan, 2nd International Conference on Emerging Infectious Diseases, Atlanta, USA, 2000.
- Asghar RJ. Obstetric complications and role of Traditional Birth Attendants in developing countries. Journal of College of Physicians and Surgeons Pakistan 1999; 9:55-57.
- Asghar RJ et al. Diagnosis of Typhoid fever using Widal test in Pakistan, American Public Health Association Annual conference, Chicago, USA, Nov, 1999.
- Asghar RJ. Typhoid, an Emerging Infection, 8th Annual International conference of family Physicians, Lahore, Pakistan, Dec, 1997.
- Asghar RJ. Family Physicians and Acute Myocardial Infarction. The Family Physician 1995; 2.

Volunteer Experience

- Always an active participant in volunteer activities of different organizations.

Extra Curricular activities

- Hockey Player in school and college teams, old books and stamps collector

Computer Skills

- Strong computer skills including experience in database software like, Epi-Info, SPSS, SAS.
- Geographical Information Systems (Different GIS softwares)

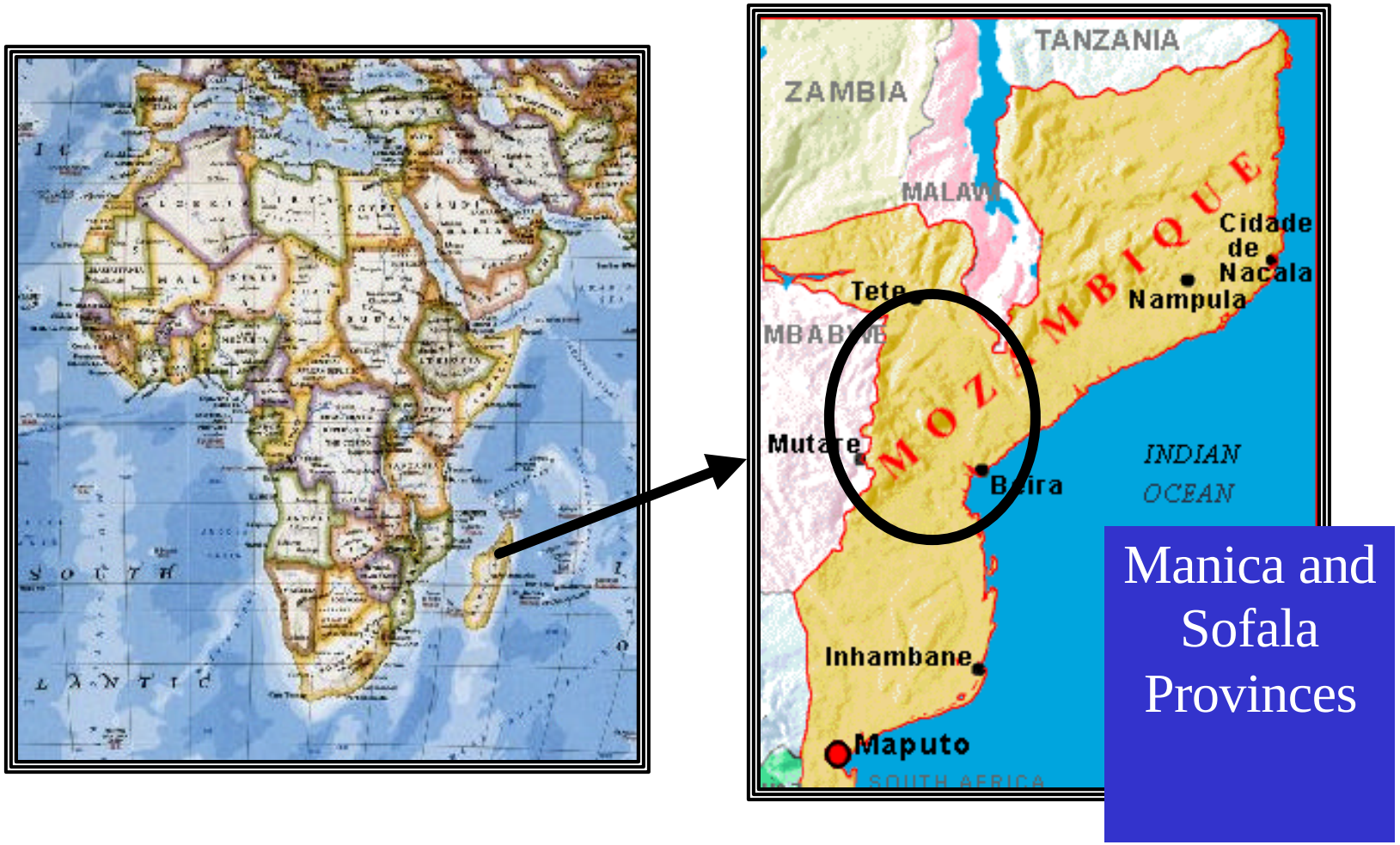
References

Available on request

Annex 6: Map of Program Area

Health Alliance International

Manica and Sofala Provinces in Central Mozambique



Annex 7: HAI/Mozambique Organizational Chart